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Notice of Rulemaking Hearing

Hearings will be conducted in the manner prescribed by the Uniform Administrative Procedures Act, T.C.A. § 4-5-204. For questions and copies of the notice, contact the person listed below.

Agency/Board/Commission:	Environment and Conservation
Division:	Water Resources
Contact Person:	Anna Rollins
Address:	William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 11th Floor Nashville, Tennessee 37243
Phone:	615-532-0159
Email:	anna.rollins@tn.gov

Any Individuals with disabilities who wish to participate in these proceedings (to review these filings) and may require aid to facilitate such participation should contact the following at least 10 days prior to the hearing:

ADA Contact:	ADA Coordinator
Address:	Beverly Evans 2nd Floor William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue Nashville, Tennessee 37243
Phone:	1-866-253-5827 (toll free) or (615) 532-0200 Hearing impaired callers may use the TN Relay Service at 1-800-848-0298.
Email:	Beverly.Evans@tn.gov

Hearing Location(s) (for additional locations, copy and paste table)

Address 1:	Conference Room F, 2nd Floor		
Address 2:	William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue		
City:	Nashville, Tennessee		
Zip:	37243		
Hearing Date :	12/17/14		
Hearing Time:	1:00 p.m.	_X_CST/CDT ___EST/EDT	

Videoconferencing Location(s): The public may videoconference the Nashville hearings at the following locations:

Address 1:	Main Conference Room Memphis Environmental Field Office		
Address 2:	8383 Wolf Lake Drive		
City:	Bartlett, Tennessee		
Zip:	38133		
Hearing Date :	12/17/14		
Hearing Time:	1:00 p.m.	_X_CST/CDT ___EST/EDT	

Address 1:	Main Conference Room Jackson Environmental Field Office		
Address 2:	1625 Hollywood Drive		
City:	Jackson, Tennessee		
Zip:	38305		
Hearing Date :	12/17/14		
Hearing Time:	1:00 p.m.	_X_CST/CDT ___EST/EDT	

Address 1:	Conference Room Chattanooga Environmental Field Office		
Address 2:	Suite 206 1301 Riverfront Parkway		
City:	Chattanooga, Tennessee		
Zip:	37402		
Hearing Date :	12/17/14		
Hearing Time:	2:00 p.m.	___CST/CDT _X_EST/EDT	

Address 1:	Main Conference Room Knoxville Environmental Field Office		
Address 2:	3711 Middlebrook Pike		
City:	Knoxville, Tennessee		
Zip:	37921-5602		
Hearing Date :	12/17/14		
Hearing Time:	2:00 p.m.	. _CST/CDT _X_EST/EDT	

Address 1:	Main Conference Room Johnson City Environmental Field Office		
Address 2:	2305 Silverdale Road		
City:	Johnson City, Tennessee		
Zip:	37601-2162		
Hearing Date :	12/17/14		
Hearing Time:	2:00 p.m.	___CST/CDT _X_EST/EDT	

Additional Hearing Information:

Summary of the proposed new Rule 0400-45-01-.41 (Revised Total Coliform Rule), and amendments associated with the new rule within Rules 0400-45-01-.04 (Definitions), 0400-45-01-.06 (Maximum Contaminant Levels), 0400-45-01-.07 (Monitoring and Analytical Requirements), 0400-45-01-.19 (Notification to Customers), 0400-45-01-.31 (Filtration and Disinfection), 0400-45-01-.35 (Consumer Confidence Reports), 0400-45-01-.36 (Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors and 0400-45-01-.40 (Ground Water Rule):

The Environmental Protection Agency finalized revisions to the 1989 Total Coliform Rule (TCR). The Revised Total Coliform Rule (RTCR) was published in the Federal Register on February 13, 2013. Tennessee is promulgating these rules to maintain primary enforcement authority ("primacy") from EPA. Under the RTCR there is no longer a monthly maximum contaminant level (MCL) violation for multiple total coliform detections. Instead, the revisions require water systems that have an indication of coliform contamination in the distribution system to assess the problem and take corrective action that may reduce cases of illnesses and deaths due to potential fecal contamination and waterborne pathogen exposure. This rulemaking also updates provisions in other rules of this chapter that reference analytical methods and other requirements in the 1989 TCR (e.g., Public Notification and Ground Water Rules).

The RTCR is the only microbial drinking water regulation that applies to all PWSs. Systems are required to meet a legal limit (i.e., maximum contaminant level (MCL)) for *E. coli,* as demonstrated by required monitoring. The RTCR specifies the frequency and timing of the microbial testing by water systems based on population served, system type, and source water type. The rule also requires public notification when there is a potential health threat as indicated by monitoring results, and when the system fails to identify and fix problems as required.

The RTCR establishes a health goal (maximum contaminant level goal, or MCLG) and an MCL for *E. coli,* a more specific indicator of fecal contamination and potential harmful pathogens than total coliforms. EPA replaces the

MCLG and MCL for total coliforms with a treatment technique for coliforms that requires assessment and corrective action. Fecal coliform is no longer used in the RTCR. A public water system that exceeds a specified frequency of total coliform occurrence must conduct an assessment to determine if any sanitary defects exist; if any are found, the system must correct them. In addition, under the treatment technique requirements, a PWS that incurs an *E. coli* MCL violation must conduct a more detailed assessment and correct any sanitary defects found.

The RTCR also requires some new monitoring requirements for seasonal systems (such as campgrounds or water systems serving recreational areas), including a state-approved start-up procedure. The RTCR eliminates public notification requirements based only on the presence of total coliforms. Instead, the RTCR requires public notification when an *E. coli* MCL violation occurs, indicating a potential health threat, or when a public water system fails to conduct the required assessment and corrective action.

Water systems are required to develop written sampling plans by March 31, 2016. The rules are effective for public water systems on April 1, 2016. A water system may propose alternative repeat monitoring locations that are expected to better characterize or identify pathways of contamination into the distribution system. Systems may elect to specify either alternative fixed locations or criteria for selecting their repeat sampling locations on a situational basis in a standard operating procedure which is part of the sample siting plan.

Minor housekeeping changes were made to Rule 0400-45-01-.33 (Control of Lead and Copper) {specifically 0400-45-01-.33(7)(b)3(iii) and (8)(e)2(ii)} and Rule 0400-45-01-.40 (Ground Water Rule) {specifically 0400-45-01-.40(6)(a)3} to concur with federal rule. In addition, a change is also being made to Rule 0400-45-01-.17 (Operation and Maintenance Requirements) to revise “lead free” terminology to conform with amendments to the Federal Safe Drinking Water Act. The Rule has also been amended to explicitly require drought management plans as a part of emergency operations plans {specifically Rule 0400-45-01-.17(7)}.

Rule 0400-45-01-.34 Drinking Water Source Protection has been amended to simplify due dates for wellhead protection plan submittals for public water systems utilizing ground water {Rule 0400-45-01-.34(1)(g)} and source water assessments for public water systems utilizing surface water {Rule 0400-45-01-.34(1)(h)}.

The Department prepared an initial set of draft rules for public review and comment. Copies of these initial draft rules are available for review at the Tennessee Department of Environment and Conservation’s (TDEC’s) Environmental Field Offices located as follows:

Cookeville Environmental Field Office
1221 South Willow Avenue
Cookeville, TN 38506
(931) 432-4015/ 1-888-891-8332

Johnson City Environmental Field Office
2305 Silverdale Road
Johnson City, TN 37601-2162
(423) 854-5400/1-888-891-8332

Jackson Environmental Field Office
1625 Hollywood Drive
Jackson, TN 38305
(731) 512-1300/ 1-888-891-8332

Chattanooga Environmental Field Office
Suite 206
1301 Riverfront Parkway
Chattanooga, TN 37402-2013
(423) 634-5745/ 1-888-891-8332

Columbia Environmental Field Office
1421 Hampshire Pike
Columbia, TN 38401
(931) 380-3371/ 1-888-891-8332

Knoxville Environmental Field Office
3711 Middlebrook Pike
Knoxville, TN 37921-5602
(865)594-6035/ 1-888-891-8332

Nashville Environmental Field Office
711 R. S. Gass Blvd.
Nashville, TN 37243-1550
(615) 687-7000/1-888-891-8332

Memphis Environmental Field Office
8383 Wolf Lake Drive
Bartlett, Tennessee 38133
(901) 371-3000/1-888-891-8332

The “Draft” rules may also be accessed for review using http://tn.gov/environment/ppo/#dwr

Draft copies are also available for review at the following address:

Tennessee Department of Environment and Conservation

Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243
(615) 532-0159

Office hours are from 8:00 AM to 4:30 PM, Monday through Friday (excluding holidays).

Oral or written comments are invited at the hearing. In addition, written comments may be submitted prior to or after the public hearing to: Tennessee Department of Environment and Conservation, Water Resources Division; Attention: Ms. Anna Rollins, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243; telephone 615 532 0159 or fax 615 532 0199. However, such written comments must be received by 4:30 PM CDT, December 17, 2014, in order to assure consideration. For further information, please contact Ms. Anna Rollinns at the above address or telephone number or by e-mail at anna.rollins@tn.gov .

Revision Type (check all that apply):

X Amendment
X New
__ Repeal

Rule(s) (**ALL** chapters and rules contained in filing must be listed. If needed, copy and paste additional tables to accommodate more than one chapter. Please enter only **ONE** Rule Number/Rule Title per row.)

Chapter Number	**Chapter Title**
0400-45-01	Public Water Systems
Rule Number	**Rule Title**
0400-45-01-.04	Definitions
0400-45-01-.06	Maximum Contaminant Levels
0400-45-01-.07	Monitoring and Analytical Requirements
0400-45-01-.17	Operation and Maintenance Requirements
0400-45-01-.19	Notification of Customers
0400-45-01-.31	Filtration and Disinfection
0400-45-01-.32	Fees for Public Water Systems
0400-45-01-.33	Control of Lead and Copper
0400-45-01-.34	Drinking Water Source Protection
0400-45-01-.35	Consumer Confidence Reports
0400-45-01-.36	Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors
0400-45-01-.37	Stage 2 Initial Distribution System Evaluation for Disinfection Byproducts
0400-45-01-.40	Ground Water Rule
0400-45-01-.41	Revised Total Coliform Rule

(Place substance of rules and other info here. Statutory authority must be given for each rule change. For information on formatting rules go to http://state.tn.us/sos/rules/1360/1360.htm)

Amendments

Chapter 0400-45-01
Public Water Systems

Rule 0400-45-01-.04 Definitions is amended by deleting it in its entirety and substituting instead the following:

0400-45-01-.04 Definitions.

(1) "Action level" is the concentration of lead or copper in water which may determine the treatment requirements that a water system is required to complete.

(2) “Bag Filters” are pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed on a non-rigid fabric filtration media housed in a pressure vessel in which the direction of flow is from the inside of the bag to outside.

(3) “Bank Filtration” is a water treatment process that uses a well to recover surface water that has naturally infiltrated into ground water through a river bed or bank(s). Infiltration is typically enhanced by the hydraulic gradient imposed by nearby pumping water supply or other wells.

(4) “Benchmark” A disinfection benchmark is the lowest monthly average value of the monthly logs of Garidia Lamblia inactivation.

(5) “Business Plan” means a document which identifies source(s) of income or revenue sufficient to meet expenses over a three (3) year period. The business plan will identify costs related to retaining a certified operator, estimated annual infrastructure repair costs, depreciation, facility maintenance fees, estimated annual monitoring costs, estimated costs of providing public notices, estimated administrative costs, and any and all other operational, treatment, and related costs (e.g. chemicals and other supplies used to treat water, etc.). The business plan must include the re-payment of borrowed and amortized funds.

(6) “Capacity Development Plan” means a document(s) identifying what actions a public water system is taking or shall take to become a “viable water system.” Such plan shall include information concerning retention of a Certified Operator in direct charge; system ownership and accountability; staffing and organizational structure; fiscal management and controls, source water assessment and protection plan; “business plan;” and any and all other information identifying any further action that shall be taken.

(7) “Cartridge filters” are pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed a rigid or semi-rigid self-supporting filter elements housed in pressure vessels in which flow is from the outside of the cartridge to the inside.

(8) “Clean compliance history” is, for the purposes of Rule 0400-45-01-.41 a record of no MCL violations under paragraph (4) of Rule 0400-45-01-.06; no monitoring violations under Rule 0400-45-01-.07 or Rule 0400-45-01-.41; and no coliform treatment technique trigger exceedances or treatment technique violations under Rule 0400-45-01-.41.

~~(8)~~(9) "Coagulation" means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.

~~(9)~~(10) “Combined distribution system” is the interconnected distribution system consisting of the distribution systems of wholesale systems and of the consecutive systems that receive finished water.

~~(10)~~(11)"Community Water System" means a public water system which serves at least fifteen (15) service connections used by year-round residents or regularly serves at least twenty-five (25) year-round residents.

~~(11)~~(12)"Compliance cycle" means the nine-year calendar year cycle during which public water systems must monitor for certain contaminants. Each compliance cycle consists of three three-year compliance periods. The first calendar year cycle begins January 1, 1993 and ends December 31, 2001; the second begins January 1, 2002 and ends December 31, 2010; the third begins January 1, 2011 and ends December 31, 2019.

~~(12)~~(13)"Compliance period" means a three year calendar year period within a compliance cycle. Each compliance cycle has three three-year compliance periods. Within the first compliance cycle, the first compliance period runs from January 1, 1993 to December 31, 1995; the second from January 1, 1996 to December 31, 1998; the third from January 1, 1999 to December 31, 2001.

~~(13)~~(14)“Comprehensive performance evaluation (CPE)” is a thorough review and analysis of a treatment plant’s performance-based capabilities and associated administrative, operation and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant’s capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. For purposes of compliance, the comprehensive performance evaluation must consist of at least the following components: assessment of plant performance; evaluation of major unit processes; identification and prioritization of performance limiting factors; assessment of the applicability of comprehensive technical assistance; and preparation of a CPE report.

~~(14)~~(15)"Confluent growth" means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.

~~(15)~~(16)"Connection" means the point at which there is a meter or service tap if no meter is present.

~~(16)~~(17)“Consecutive system is a public water system that receives some or all of its finished water from one or more wholesale systems. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

~~(17)~~(18)"Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

~~(18)~~(19)"Conventional filtration treatment" means a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal.

~~(19)~~(20)"Corrosion inhibitor" means a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

~~(20)~~(21)"CT" or "CTcalc" is the product of "residual disinfectant concentration" (C) in mg/1 determined before or at the first customer, and the corresponding "disinfectant contact time" (T) in minutes, i.e., "C" x "T". If a public water system applies disinfectants at more than one point prior to the first customer, it must determine the CT of each disinfectant sequence before or at the first customer to determine the total percent inactivation or "total inactivation ratio". In determining the total inactivation ratio, the public water system must determine the residual disinfectant concentration of each disinfection sequence and corresponding contact time before any subsequent disinfection application point(s). "$CT_{99.9}$" is the CT value required for 99.9 percent (3-log) inactivation of Giardia lamblia cysts. $CT_{99.9}$ for a variety of disinfectants and conditions appear in Tables 1.1 through 1.6, 2.1, and 3.1 of part (5)(b)3 of Rule 0400-45-01-.31.

$$\frac{CTcalc}{CT_{99.9}}$$

is the inactivation ratio. The sum of the inactivation ratios, or total inactivation ratio shown as

$$\Sigma \quad \frac{(CTcalc)}{(CT_{99.9})}$$

is calculated by adding together the inactivation ratio for each disinfection sequence. A total inactivation ratio equal to or greater than 1.0 is assumed to provide a 3-log inactivation of Giardia lamblia cyst.

Disinfectant concentrations must be determined by tracer studies or an equivalent demonstration approved by the Department.

~~(21)~~(22) "Department" when used in these regulations shall mean the Division of Water Supply, Tennessee Department of Environment and Conservation, or one of the Division's Field Offices.

~~(22)~~(23) "Diatomaceous earth filtration" means a process resulting in substantial particulate removal in which (1) a precoat cake of diatomaceous earth filter media is deposited on a support membrane (septum), and (2) while the water is filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake.

~~(23)~~(24) "Direct filtration" means a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.

~~(24)~~(25) "Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic microorganisms.

~~(25)~~(26) "Disinfectant contact time" ("T" in CT calculations) means the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfectant residual measurement to a point before or at the point where residual disinfectant concentration ("C") is measured. Where only one "C" is measured, "T" is the time in minutes that it takes for water to move from the point of disinfectant application to a point before or at where residual disinfectant concentration ("C") is measured. Where more than one "C" is measured, "T" is (a) for the first measurement of "C", the time in minutes that it takes for water to move from the first or only point of disinfectant application to a point before or at the point where the first "C" is measured and (b) for subsequent measurements of "C", the time in minutes that it takes for water to move from the previous "C" measurement point to the "C" measurement point for which the particular "T" is being calculated. Disinfectant contact time in pipelines must be calculated based on "plug flow" by dividing the internal volume of the pipe by the maximum hourly flow rate through that pipe. Disinfectant contact time within mixing basins and storage reservoirs must be determined by tracer studies or an equivalent demonstration.

~~(26)~~(27) "Disinfection" means a process which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

~~(27)~~(28) “Disinfection profile” is a summary of daily Giardia lamblia inactivation through the treatment plant. The procedure for developing a disinfection profile is contained in 40 CFR 141.172.

~~(28)~~(29) "Distribution System" means all water lines up to the point of a meter. For unmetered systems distribution system includes all lines up to the customer's service tap.

~~(29)~~(30) "Domestic or other non-distribution system plumbing problem" means a coliform contamination problem in a public water system with more than one service connection that is limited to the specific service connection from which the coliform-positive sample was taken.

~~(30)~~(31) "Dose Equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).

~~(31)~~(32) “Dual sample set” is a set of two samples collected at the same time and same location, with one sample analyzed for TTHM and the other sample analyzed for HAA5. Dual sample sets are collected for the purposes of conducting an IDSE under the provisions of Rule 0400-45-01-.37 and determining compliance with the TTHM and HAA5 MCLs under the provisions of Rule 0400-45-01-.38.

~~(32)~~(33) "Effective corrosion inhibitor residual" for the purpose of the lead and copper rules only, means a concentration sufficient to form a passivating film on the interior walls of a pipe.

~~(33)~~(34) "Engineer" means the person or firm who designed the public water system and conceived, developed, executed or supervised the preparation of the plan documents.

~~(34)~~(35) “Enhanced coagulation” means the addition of sufficient coagulant for improved removal of disinfection byproduct precursors by conventional filtration treatment.

~~(35)~~(36) “Enhanced softening” means the improved removal of disinfection byproduct precursors by precipitative softening.

~~(36)~~(37) “Filter profile” is a graphical representation of individual filter performance, based on continuous turbidity measurements or total particle counts versus time for an entire filter run, from startup to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed.

~~(37)~~(38) "Filtration" means a process for removing particulate matter from water by passage through porous media.

~~(38)~~(39) “Finished water” is water that is introduced into the distribution system of a public water system and is intended for distribution and consumption without further treatment, except as treatment necessary to maintain water quality in the distribution system (e.g., booster disinfection, addition of corrosion control chemicals).

~~(39)~~(40) "First draw sample" means a one-liter sample of tap water, for the purposes of the lead and copper rules, that has been standing in plumbing pipes at least 6 hours and is collected without flushing the tap.

~~(40)~~(41) “Flocculation" means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means.

~~(41)~~(42) “Flowing stream” is a course of running water flowing in a definite channel.

~~(42)~~(43) “GAC10” means granular activated carbon filter beds with an empty-bed contact time of 10 minutes based on average daily flow and a carbon reactivation frequency of every 180 days, except that the reactivation frequency for GAC10 used as best available technology for compliance with disinfection byproducts shall be 120 days.

~~(43)~~(44) “GAC20” means granular activated carbon filter beds with an empty-bed contact time of 20 minutes based on average daily flow and a carbon reactivation frequency of every 240 days.

~~(44)~~(45) "Gross Alpha Particle Activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

~~(45)~~(46) "Gross Beta Particle Activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.

~~(46)~~(47) “Ground water under the direct influence of surface water” means any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as Giardia lamblia or Cryptosporidium, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence must be determined for individual sources in accordance with criteria established by the Department. The Department determination of direct influence may be based on site-specific measurements of water quality and/or documentation of well construction characteristics and geology with field evaluation.

~~(47)~~(48) “Haloacetic acids (five) (HAA5)” mean the sum of the concentrations in milligrams per liter of the haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid), rounded to two significant figures after addition.

~~(48)~~(49) "Halogen" means one of the chemical elements chlorine, bromine or iodine.

~~(49)~~(50) “Human Consumption” - means the use of water that involves any drinking or ingestion of the water by humans, any human skin contact or food preparation where the food is not brought to boiling temperatures after contact with the water.

~~(50)~~(51)"Initial compliance period" means the first full three-year compliance period which begins January 1, 1993. For public water systems having fewer than 150 service connections initial compliance period shall be January 2, 1996, for the following contaminants:

(a)	Antimony	(m)	endrin
(b)	Beryllium	(n)	glyphosate
(c)	Cyanide	(o)	oxamyl
(d)	Nickel	(p)	picloram
(e)	Thallium	(q)	simazine
(f)	dichloromethane	(r)	benzo(a)pyrene
(g)	1,2,4-trichlorobenzene	(s)	di(2ethylhexyl)adipate
(h)	1,1,2-trichloroethane	(t)	di(2ethylhexyl)phthalate
(i)	dalapon	(u)	hexachlorobenzene
(j)	dinoseb	(v)	hexachlorocyclopentadiene
(k)	diquat	(w)	2,3,7,8 TCDD
(l)	endothall		

~~(51)~~(52)“Lake/reservoir” refers to a natural or man-made basin or hollow on the earth’s surface in which water collects or is stored that may or may not have a current or single direction of flow.

~~(52)~~(53)"Large water system" for the purpose of lead and copper rule, means a water system that serves more than 50,000 persons.

~~(53)~~(54)"Lead service line" means a service line made of lead which connects the water main to the building inlet and any lead pigtail, gooseneck or other fitting which is connected to such lead line.

~~(54)~~(55)"Legionella" means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

(56) “Level 1 assessment” is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. It is conducted by the system operator or owner. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., whether a ground water system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The system must conduct the assessment consistent with any Department directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system.

(57) “Level 2 assessment” is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. A Level 2 assessment provides a more detailed examination of the system (including the system’s monitoring and operational practices) than does a Level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices. It is conducted by an individual approved by the Department, which may include the system operator. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., whether a ground water system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The system must conduct the assessment consistent with any Department directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system. The system must comply with any expedited actions or additional actions required by the Department in the case of an E. coli MCL violation.

~~(55)~~(58)“Locational running annual average (LRAA)” is the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

~~(56)~~(59)"Man-Made Beta Particle and Photon Emitter" means all radionuclides emitting beta particles and/or photons listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, NBS Handbook 69", except the daughter products of thorium-232, uranium-235 and uranium-238.

~~(57)~~(60)"Maximum Contaminant Level" means the maximum permissible level of a contaminant in water which is delivered at the free flowing outlet of the ultimate user of a public water system, except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition.

~~(58)~~(61)"Maximum residual disinfectant level (MRDL)" means a level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. For chlorine and chloramines, a PWS is in compliance with the MRDL when the running annual average of monthly averages of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL. For chlorine dioxide, a PWS is in compliance with the MRDL when daily samples are taken at the entrance to the distribution system and no two consecutive daily samples exceed the MRDL. MRDLs are enforceable in the same manner as maximum contaminant levels under Section 1412 of the Safe Drinking Water Act. There is convincing evidence that addition of a disinfectant is necessary for control of waterborne microbial contaminants. Notwithstanding the MRDLs, operators may increase residual disinfectant levels of chlorine or chloramines (but not chlorine dioxide) in the distribution system to a level and for a time necessary to protect public health to address specific microbiological contamination problems caused by circumstances such as distribution line breaks, storm runoff events, source water contamination, or cross-connections.

~~(59)~~(62)"Maximum Total Trihalomethane Potential (MTP)" means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after 7 days at a temperature of 25°C or above.

~~(60)~~(63)"Medium-size water system" for the purpose of the lead and copper rule means a water system that serves greater than 3,300 and less than or equal to 50,000 persons.

~~(61)~~(64)"Membrane filtration" is a pressure or vacuum driven separation process in which particulate matter larger than 1 micrometer is rejected by an engineered barrier, primarily through a size exclusion mechanism, and which has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test. This definition includes the common membrane technologies of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis.

~~(62)~~(65)"Near the first service connection" means at one of the twenty percent of all service connections in the entire system that are nearest the water supply treatment facility, as measured by the water transport time within the distribution system.

~~(63)~~(66)"Non-Community Water System" means a public water system that is not a community water system. A non-community water system is either a "transient non-community water system" (TNCWS) or a "non-transient non-community water system" (NTNCWS).

~~(64)~~(67)"Non-Transient Non-Community Water System" or NTNCWS" means a non-community water system that regularly serves at least twenty-five (25) of the same persons over six (6) months per year.

~~(65)~~(68)"Optimal corrosion control treatment" for the purpose of lead and copper rule only means the corrosion control treatment that minimizes the lead and copper concentrations at user's taps while insuring that the treatment does not cause the water system to violate any primary drinking water regulation.

~~(66)~~(69)"Person" means any individual, corporation, company, association, partnership, State, municipality, utility district, water cooperative, or Federal agency.

~~(67)~~(70)"Picocurie" (pCi) means that quantity of radioactive material producing 2.22 nuclear transformations per minute.

~~(68)~~(71)"Plan Documents" mean reports, proposals, preliminary plans, survey and basis of design data, general and detailed construction plans, profiles, specifications and all other information pertaining to public water system planning.

~~(69)~~(72)“Plant intake” refers to the works or structures at the head of a conduit through which water is diverted from a source (e.g., river or lake) into the treatment plant.

~~(70)~~(73)"Point of disinfectant application" is the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water runoff.

~~(71)~~(74)"Point-of-Entry Treatment Device" (POE) means a device applied to the drinking water entering a house or building for the purpose of reducing contaminants in the drinking water distributed throughout the house or building.

~~(72)~~(75)"Point-of-Use Treatment Device" (POU) means a treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap.

~~(73)~~(76)‘Presedimentation” is a preliminary treatment process used to remove gravel, sand and other particulate material from the source water through settling before the water enters the primary clarification and filtration processes in a treatment plant.

~~(74)~~(77)"Primary Drinking Water Regulation" means a regulation promulgated by the Department which:

(a) applies to public water systems;

(b) specifies contaminants which, in the judgment of the Department, may have any adverse effect on the health of persons;

(c) specified for each such contaminant either;

1. a maximum contaminant level, if, in the judgment of the Department, it is economically and technologically feasible to ascertain the level of such contaminant in water in public water systems, or

2. if, in the judgment of the Department, it is not economically or technologically feasible to so ascertain the level of such contaminant, each treatment technique known to the Department which leads to a reduction in the level of such contaminant sufficient to satisfy the requirements of Rule 0400-45-01-.06; and

(d) contains criteria and procedures to assure a supply of drinking water which dependably complies with such maximum contaminant levels; or treatment techniques including quality control and testing procedures to insure compliance with such levels and to insure proper operation and maintenance of the system, and requirements to (i) the minimum quality of water which may be taken into the system and (ii) siting for new facilities for public water systems.

~~(75)~~(78)“Public Water System” means a system for the provision of piped water for human consumption if such serves 15 or more connections or which regularly serves 25 or more individuals daily at least 60 days out of the year and includes:

(a) any collection, treatment, storage or distribution facility under control of the operator of such system and used primarily in connection with such system; and

(b) any collection or pre-treatment storage facility not under such control which is used primarily in connection with such system,

The population of a water system shall be determined by actual count or by multiplying the household factor by the number of connections in the system. The household factor shall be taken from the latest federal census for that county or city. Water systems serving multi-family residences such as apartment complexes and mobile home parks shall include each individual residence unit as a connection in determining the population for the system.

~~(76)~~(79) "Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A "millerem (mrem)" is 1/1000 of a rem.

~~(77)~~(80) "Repeat compliance period" means any subsequent compliance period after the initial compliance period.

~~(78)~~(81) "Residual disinfectant concentration" ("C" in CT calculations) means the concentration of disinfectant measured in mg/l in a representative sample of water.

~~(79)~~(82) "Safe Drinking Water Act" means the Federal law codified in 42 United States Code 300f et seq., Public Law 93-523, dated December 16, 1974 and subsequent amendments.

(83) "Sanitary defect" is a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.

~~(80)~~(84) "Sanitary Survey" means an on-site review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such sources, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

(85) "Seasonal system" is a non-community water system that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operating season.

~~(81)~~(86) "Secondary Drinking Water Regulation" mean a regulation promulgated by the Department which applies to public water systems and which specifies the maximum contaminant levels which, in the judgment of the Department are requisite to protect the public welfare. Such regulations may apply to any contaminant in drinking water

(a) which may adversely affect the odor or appearance of such water and consequently may cause the persons served by the public water system providing such water to discontinue its use, or

(b) which may otherwise adversely affect the public welfare. Such regulations may vary according to geographic and other circumstances.

~~(82)~~(87) "Sedimentation" means a process for removal of solids before filtration by gravity or separation.

~~(83)~~(88) "Service line sample" means a one-liter sample of water collected in accordance with part (7)(b)3 of Rule 0400-45-01-.33, that has been standing for at least 6 hours in a service line.

~~(84)~~(89) "Single family structure" for the purpose of lead and copper rules means a building constructed as a single-family residence that is currently used as either a residence or a place of business.

~~(85)~~(90) "Slow sand filtration" means a process involving passage of a raw water through a bed of sand at low velocity (generally less than 0.4 m/h) resulting in substantial particulate removal by physical and biological mechanisms.

~~(86)~~(91) "Small water system" for the purpose of the lead and copper rules only, means a water system that serves 3,300 or fewer persons.

~~(87)~~(92) "Subpart H systems" means public water systems using surface water or ground water under the direct influence of surface water as a source that are subject to the requirements of Rules 0400-45-01-.17, 0400-45-01-.31 and 0400-45-01-.39.

~~(88)~~(93) "Supplier of Water" means any person who owns or operates a public water system.

~~(89)~~(94) "Surface water" means all water which is open to the atmosphere and subject to surface runoff.

~~(90)~~(95) "SUVA" means Specific Ultraviolet Absorption at 254 nanometers (nm), an indicator of the humic content of water. It is a calculated parameter obtained by dividing a sample's ultraviolet absorption at a wavelength of 254 nm (UV 254/ (in m) by its concentration of dissolved organic carbon (DOC) (in mg/L).

~~(91)~~(96) "System with a single service connection" means a system which supplies drinking water to consumers via a single service line.

~~(92)~~(97)"Too numerous to count" means that the total number of bacterial colonies exceeds 200 on a 47 millimeter diameter membrane filter used for coliform detection.

~~(93)~~(98)"Total Organic Carbon" (TOC) means total organic carbon in mg/L measured using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to two significant figures.

~~(94)~~(99)"Total trihalomethane" (TTHM) means the sum of concentration in milligrams per liter of the trihalomethane compounds-trihalomethane (chloroform), dibromochloromethane, bromodichloro-methane and tribomomethane (bromoform), rounded to two significant figures.

~~(95)~~(100)"Transient Non-Community Water System" or "TNCWS" means a non-community water system that regularly serves at least twenty-five (25) individuals daily at least sixty (60) days out of the year. A transient non-community water system is a public water supply system that generally serves a transient population such as hotels, motels, restaurants, camps, service stations churches, industry, and rest stops.

~~(96)~~(101)"Trihalomethane" (THM) means one of the family of organic compounds, named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

~~(97)~~(102)"Two-stage lime softening" is a process in which chemical addition and hardness precipitation occur in each of two distinct unit clarification processes.

~~(98)~~(103)"Uncovered finished water storage facility" is a tank, reservoir, or other facility used to store water that will undergo no further treatment except residual disinfection and is open to the atmosphere.

~~(99)~~(104)"Viable Water System" means a public water system which has the commitment and the financial, managerial and technical capacity to consistently comply with the Tennessee Safe Drinking Water Act and these regulations.

~~(100)~~(105)"Virus" means a virus of fecal origin which is infectious to humans by waterborne transmission.

~~(101)~~(106)"Waterborne disease outbreak" means a significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system which is deficient in treatment, as determined by the appropriate local or State agency.

~~(102)~~(107)"Wholesale system" is a public water system that treats source water as necessary to produce finished water and then delivers some or all of that finished water to another public water system. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Paragraph (4) of Rule 0400-45-01-.06 Maximum Contaminant Levels is amended by adding subparagraph (f) to read as follows:

(f) Maximum contaminant level goals for microbiological contaminants.

1. MCLGs for the following contaminants are as indicated:

Contaminant	MCLG
(i) *Giardia lamblia*	zero
(ii) Viruses	zero
(iii) *Legionella*	zero
(iv) Total coliforms (including fecal coliforms and *Escherichia coli*)	zero
(v) *Cryptosporidium*	zero
(vi) *Escherichia coli (E. coli)*	zero

2. The MCLG identified in subpart 1(vi) of this subparagraph is applicable beginning April 1, 2016.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subparagraph (a) of paragraph (4) of Rule 0400-45-01-.06 Maximum Contaminant Levels is amended by deleting it in its entirety and substituting instead the following:

(a) ~~The~~ Until March 31, 2016, the total coliform maximum contaminant level (MCL) is based on the presence or absence of total coliforms in a sample, rather than coliform density. Beginning April 1, 2016, the MCL for total coliform shall no longer be in effect.

The number of total coliform positive samples shall not exceed any of the following:

1. For a system which collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

2. For a system which collects fewer than 40 samples/month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

3. A public water system which has exceeded the MCL for total coliforms must report the violation to the Department no later than the end of the next business day after it learns of the violation and notify the public in accordance with the schedule of Rule 0400-45-01-.19 using the language specified in Rule 0400-45-01-.19.

4. A public water system which has failed to comply with the coliform monitoring requirements, including a sanitary survey requirement must report the monitoring violation to the Department within ten (10) days after the system discovers the violation and notify the public in accordance with Rule 0400-45-01-.19.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subparagraph (b) of paragraph (4) of Rule 0400-45-01-.06 Maximum Contaminant Levels is amended by deleting it in its entirety and substituting instead the following:

(b) Until March 31, 2016, ~~Any~~ any fecal coliform-positive repeat sample or E-coli-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or E-coli positive routine sample constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in Rule 0400-45-01-.19, this is a ~~tier 1~~ violation that may pose an acute risk to health.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Paragraph (4) of Rule 0400-45-01-.06 Maximum Contaminant Levels is amended by adding subparagraphs (g) through (j) to read as follows:

(g) Beginning April 1, 2016, a system is in compliance with the MCL for *E. coli* for samples taken under the provisions of Rule 0400-45-01-.41 unless any of the conditions identified in parts 1 through 4 of this subparagraph occur. For purposes of the public notification requirements in Rule 0400-45-01-.19, violation of the MCL may pose an acute risk to health.

1. The system has an *E. coli*-positive repeat sample following a total coliform positive routine sample.

2. The system has a total coliform positive repeat sample following an *E. coli*-positive routine sample.

3. The system fails to take all required repeat samples following an *E. coli*-positive routine sample.

4. The system fails to test for *E. coli* when any repeat sample tests positive for total coliform.

(h) Until March 31, 2016, a public water system must determine compliance with the MCL for total coliforms in subparagraphs (a) and (b) of this paragraph for each month in which it is required to monitor for total coliforms. Beginning April 1, 2016, a public water system must determine compliance with the MCL for *E. coli* in subparagraph (g) of this paragraph for each month in which it is required to monitor for total coliforms.

(i) The EPA Administrator, pursuant to section 1412 of the Federal Safe Drinking Water Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant level for total coliforms in subparagraphs (a) and (b) of this paragraph and for achieving compliance with the maximum contaminant level for *E. coli* in subparagraph (g) of this paragraph:

1. Protection of wells from fecal contamination by appropriate placement and construction;

2. Maintenance of a disinfectant residual throughout the distribution system;

3. Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, cross connection control, and continual maintenance of positive water pressure in all parts of the distribution system;

4. Filtration and/or disinfection of surface water, as described in Rules 0400-45-01-.17, 0400-45-01-.31 and 0400-45-01-.39, or disinfection of ground water, as described in Rule 0400-45-01-.40, using strong oxidants such as chlorine, chlorine dioxide, or ozone; and

5. For systems using ground water, compliance with the requirements of an EPA-approved State Wellhead Protection Program developed and implemented under section 1428 of the Federal Safe Drinking Water Act.

(j) The EPA Administrator, pursuant to section 1412 of the Federal Safe Drinking Water Act, hereby identifies the technology, treatment techniques, or other means available identified in subparagraph (i) of this paragraph as affordable technology, treatment techniques, or other means available to systems serving 10,000 or fewer people for achieving compliance with the maximum contaminant level for total coliforms in subparagraphs (a) and (b) of this paragraph and for achieving compliance with the maximum contaminant level for *E. coli* in subparagraph (g) of this paragraph.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subparagraph (a) of paragraph (1) of Rule 0400-45-01-.07 Monitoring and Analytical Requirements is amended by deleting it in its entirety and substituting instead the following:

(a) ~~Reserved~~ Effective April 1, 2016, violations for total coliform and fecal coliform shall no longer be considered MCL violations and violations regarding total coliform shall be treatment technique triggers as described in Rule 0400-45-01-.41. Paragraph (5) of this rule further delineates the transition to Rule 0400-45-01-.41.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Rule 0400-45-01-.07 Monitoring and Analytical Requirements is amended by adding subparagraph (5) to read as follows:

(5) Subparagraphs (1)(c) and (4)(c) of this rule are applicable until March 31, 2016. The provisions of paragraphs (2) and (3) of this rule and Rules 0400-45-01-.06(4)(c), 0400-45-01-.14(10)(a) and 0400-45-01-.06(4)(a)3 are applicable until all required repeat monitoring under paragraph (2) of this rule and fecal coliform or E. coli testing under Rule 0400-45-01-.06(4)(c) that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed, as well as analytical method, reporting, recordkeeping, public notification, and consumer confidence report requirements associated with that monitoring and

testing. Beginning April 1, 2016, the provisions of Rule 0400-45-01-.41 are applicable, with systems required to begin regular monitoring at the same frequency as the system specific frequency required on March 31, 2016.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Paragraph (7) of Rule 0400-45-01-.17 Operation and Maintenance Requirements is amended by deleting it in its entirety and substituting instead the following:

(7) ~~Within one year after the effective date of these regulations all~~ All community water system shall prepare and maintain an emergency operations plan in order to safeguard the water supply and to alert the public of unsafe drinking water in the event of natural or man-made disasters. Emergency operation plans shall be consistent with guidelines established by the Department and shall be reviewed and approved by the Department. Systems shall include a drought management plan as a part of the emergency operations plan. The drought management plans portions of the emergency operations shall be submitted for approval as follows:

(a) Systems serving 3,000 or more connections including consecutive systems: June 30, 2016.

(b) Systems serving more than 1,000 connections and less than 3,000 connections including consecutive systems: June 30, 2017.

(c) Systems serving 1,000 connections or less: June 30, 2018.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Paragraph (22) of Rule 0400-45-01-.17 Operation and Maintenance Requirements is amended by deleting it in its entirety and substituting instead the following:

(22) (a) All pipe, pipe or plumbing fitting or fixture, solder, or flux which is used in the installation or repair of any public water system shall be lead free. ~~This shall not apply to lead joints necessary for the repair of cast iron pipes.~~

(b) ~~The~~ As used in subparagraph (a) of this paragraph, the term "lead free" ~~in this paragraph is defined as follows:~~ shall have the meaning given it in T.C.A. § 68-221-703.

~~(a) When used with respect to solders and flux shall mean solders and flux containing not more than two-tenths of one percent (0.2%) lead and~~

~~(b) When used with respect to pipes and pipe fittings shall mean pipes and pipe fittings containing not more than eight percent (8.0%) lead.~~

(c) Subparagraph (a) of this paragraph shall not apply to:

1. Lead joints necessary for the repair of cast iron pipes;

2. All pipe, pipe or plumbing fittings or fixtures, including backflow preventers, that are used exclusively for nonpotable services such as manufacturing, industrial processing, irrigation, outdoor watering, or any other uses where the water is not anticipated to be used for human consumption; or

3. Toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, fire hydrants, service saddles, or water distribution main gate valves that are two inches (2") in diameter or larger.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

The table which is subparagraph (a) of paragraph (2) of Rule 0400-45-01-.19 Notitification of Customers is amended by adding the following sentence at the end of part 1 of the table such that as amended the part 1 of the table shall read:

1. Violation of the MCL for total coliforms when fecal coliform or E. coli are present in the water distribution system as specified in Rule 0400-45-01-.06, or when the water system fails to test for fecal coliforms or E. coli when any repeat sample tests positive for coliform as specified in Rule 0400-45-01-.07; Violation of the MCL for E. coli (as specified in Rule 0400-45-01-.06(4)(f));

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Part 2 of subparagraph (b) of paragraph (3) of Rule 0400-45-01-.19 Notification of Customers is amended by deleting it in its entirety and substituting instead the following:

2. The public water system must repeat the notice every three months as long as the violation or situation persists, unless the primacy agency determines that appropriate circumstances warrant a different repeat notice frequency. In no circumstance may the repeat notice be given less frequently than once per year. ~~The department will not allow less frequent repeat notice for an MCL violation under the Total Coliform rule or a treatment technique violation under Rule 0400-45-01-.31~~. The department will not through its rules or policies permit across-the-board reductions in the repeat notice frequency for other ongoing violations requiring a Tier 2 repeat notice. The department will not allow through its rules or policies less frequent repeat notice for an MCL or treatment technique violation under Rule 0400-45-01-.07 (Monitoring) or Rule 0400-45-01-.41 (Revised Total Coliform Rule) or a treatment technique violation under Rule 0400-45-01-.31 (Filtration and Disinfection). Department determinations allowing repeat notices to be given less frequently than once every three months must be in writing.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

The table which is subparagraph (a) of paragraph (4) of Rule 0400-45-01-.19 Notification of Customers is amended by adding part 6 to read as follows:

6. Reporting and Recordkeeping violations under Rule 0400-45-01-.41.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

I.A.1 and 2 of Appendix A of Rule 0400-45-01-.19 of Rule 0400-45-01-.19 Notification of Customers is amended by deleting the entries for “Total Coliform” and “Fecal Coliform/E. coli” under I.A. Microbiological Contaminants and replacing them with the following entries such that, as amended, the entries for I.A.1 and I.A.2 shall read as follows:

Appendix A TO Rule 0400-45-01-.19
NPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE[1]

Contaminant	MCL/MRDL/TT violations[2]		Monitoring & Testing procedure violations	
	Tier of Public Notice Required	Citation	Tier of public notice required	Citation
I. Violations of National Primary Drinking Water Regulations (NPDWR)[3]				
A. Microbiological Contaminants				
1. **a.** Total coliform bacteria **†**	2	0400-45-01-.06(4)(a)	3	0400-45-01-.07(1) and (2)
1. b. Total coliform (TT violations resulting from	2	0400-45-01-.41(10)(a) through (b)	3	0400-45-01-.41(10)(c) through (d)

failure to perform assessments or corrective actions, monitoring violations and reporting violations) ‡				
1. c. Seasonal system failure to follow Department-approved start-up plan prior to serving water to the public or failure to provide certification to the Department. ‡	2	0400-45-01-.41(10)(b)2		
2. **a.** Fecal coliform/E. coli **†**	1	0400-45-01-.06(4)(b)	[4] 1,3	0400-45-01-.07(1) and (2)
2. b. E. coli ‡	1	0400-45-01-.41(10)(a)	3	0400-45-01-.41(10)(c)
2. c. E. coli (TT violations resulting from failure to perform level 2 Assessments or corrective action) ‡.	2	0400-45-01-.41(10)(a) and (b)		

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

The Appendix A -- Endnotes of Appendix A TO Rule 0400-45-01-.19 of Rule 0400-45-01-.19 Notification of Customers is amended by adding the two following endnotes at the beginning of the sequence of Endnotes to read as follows:

† Until March 31, 2016
‡ Beginning April 1, 2016

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

A. Microbiological Contaminants of Appendix B TO Rule 0400-45-.19 of Rule 0400-45-01-.19 Notification of Customers is amended deleting it in its entirety and substituting instead the following:

Appendix B to Rule 0400-45-01-.19
Standard Health Effects Language for Public Notification

Contaminant	MCLG[1] mg/L	MCL[2] mg/L	Standard health effects language for public notification
National Primary Drinking Water			

Regulations (NPDWR)			
A. ~~Microbioligical~~ Microbiological Contaminants			
1a. Total coliform ‡	Zero	See footnote[3]	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
1b. Fecal coliform/E. coli ‡	Zero	Zero	Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
1c. Fecal indicators (GWR) i. E. coli ii. Enterococci	Zero None	TT TT	Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
1d. Ground Water Rule (GWR) TT violations	None	1 NTU [5]/2 NTU	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.
1e. Revised Total Coliform Rule: Coliform Assessment and/or Corrective Action Violations ‡	N/A	TT	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms

			indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and correct any problems that are found. [THE SYSTEM MUST USE THE FOLLOWING APPLICABLE SENTENCES.] We failed to conduct the required assessment. We failed to correct all identified sanitary defects that were found during the assessment(s).
1f. Revised Total Coliform Rule: E. coli Assessment and/or Corrective Action Violations ‡.	N/A	TT	E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We violated the standard for E. coli, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct a detailed assessment to identify problems and to correct any problems that are found. [THE SYSTEM MUST USE THE FOLLOWING APPLICABLE SENTENCES.] We failed to conduct the required assessment. We failed to correct all identified sanitary defects that were found during the assessment that we conducted.
1g. E. coli ‡.	Zero	In compliance unless one of the following conditions occurs: (1) The system has an E. coli-positive repeat sample following a total coliform-positive routine sample. (2) The system has a total coliform-positive repeat sample following an E. coli-positive routine sample.	E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

		(3) The system fails to take all required repeat samples following an E. coli-positive routine sample. (4) The system fails to test for E. coli when any repeat sample tests positive for total coliform.	
1h. Revised Total Coliform Rule Seasonal System TT Violations ‡.	N/A	TT	When this violation includes the failure to monitor for total coliforms or E. coli prior to serving water to the public, the mandatory language found at Rule 0400-45-01-.19(5)(d)2 must be used. When this violation includes the failure to complete other actions, the appropriate elements found in Rule 0400-45-01-.19(5)(a) must be used.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

The Appendix B -- Endnotes of Appendix B TO Rule 0400-45-01-.19 of Rule 0400-45-01-.19 Notification of Customers is amended by adding the two following endnotes at the beginning of the sequence of Endnotes to read as follows:

† Until March 31, 2016.
‡ Beginning April 1, 2016.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Part 5 of subparagraph (b) of paragraph (2) of Rule 0400-45-01-.31 Filtration and Disinfection is amended by deleting it in its entirety and substituting instead the following:

5. The public water system must comply with the maximum contaminant level (MCL) for total coliforms in paragraph (4) of Rule 0400-45-01-.06 and the MCL for *E. coli* in subparagraph (4)(f) of Rule 0400-45-01-.06. The system must achieve the standard at a frequency of at least 11 months of the 12 previous months that the system served water to the public, on an ongoing basis, unless the Department determines that failure to meet this requirement was not caused by a deficiency in treatment of the source water.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Part 6 of subparagraph (b) of paragraph (5) of Rule 0400-45-01-.31 Filtration and Disinfection is amended by deleting it in its entirety and substituting instead the following:

6. Until March 31, 2016, ~~The~~ the residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in paragraph (1) of Rule 0400-45-01-.07~~, except that the Department may allow a public water system which uses a ground water source, to take disinfectant residual samples at points other than the total coliform sampling points if the Department determines that such points are more representative of treated (disinfected) water quality within the distribution system~~. Beginning April 1, 2016, the residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in

paragraphs (4) through (8) of Rule 0400-45-01-.41. The Department may allow a public water system which uses both a surface water source or a ground water source under direct influence of surface water, and a ground water source, to take disinfectant residual samples at points other than the total coliform sampling points if the Department determines that such points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in part (10)(a)4 of Rule 0400-45-01-.14, may be measured in lieu of residual disinfectant concentration.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Part 3 of subparagraph (c) of paragraph (5) of Rule 0400-45-01-.31 Filtration and Disinfection is amended by deleting it in its entirety and substituting instead the following:

3. Until March 31, 2016, ~~The~~ the residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in paragraph (1) of Rule 0400-45-01-.07. Beginning April 1, 2016, the residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in paragraphs (4) through (8) of Rule 0400-45-01-.41. The Department may allow a public water system which uses both a surface water source or a ground water source under direct influence of surface water, and a ground water source, to take disinfectant residual samples at points other than the total coliform sampling points if the Department determines that such points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in part (10)(a)4 of Rule 0400-45-01-.14, may be measured in lieu of residual disinfectant concentration.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Part 3 of subparagraph (b) of paragraph (7) of Rule 0400-45-01-.33 Lead and Copper Rule is amended by adding subpart (iii) to read as follows:

(iii) If the sampling site is a building constructed as a single-family residence, allowing the water to run until there is a significant change in temperature which would be indicative of water that has been standing in the lead service line.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subpart (ii) of part 2 of subparagraph (e) of paragraph (8) of Rule 0400-45-01-.33 Lead and Copper Rule is amended by deleting it in its entirety and substituting instead the following:

(ii) A water system may reduce the frequency with which it collects tap samples for applicable water quality parameters specified in part 1 of this subparagraph to every three years if it demonstrates during two consecutive monitoring periods that its tap water lead level at the 90th percentile is less than or equal to the PQL for lead specified in ~~subpart (10)(a)1(ii) of this rule~~ subparagraph (10)(e) of Rule 0400-45-01-.14, that its tap water copper level at the 90th percentile is less than or equal to 0.65 mg/L for copper in part (1)(c)2 of this rule, and that it also has maintained the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the Department under subparagraph (3)(f) of this rule. Monitoring conducted every three years shall be done no later than every third calendar year.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Part 3 of subparagraph (g) of paragraph (1) of Rule 0400-45-01-.34 Drinking Water Source Protection is amended by deleting it in its entirety and substituting instead the following:

3. A review of the potential contaminant source inventory must be performed at minimum annually by the category 2, 3 and 4 community systems. Such review shall be

documented and kept on file at the water system office. Wellhead protection plans shall be submitted to the Department on a ~~six (6)~~ three (3) year cycle~~, with an update required three (3) years into the cycle~~. Category 1 community systems shall perform the reviews as a part of their required submittals to the Department every three (3) years with the submittal dates coinciding with the category 2, 3 and 4 community submittals.

(i) ~~Category 1~~ Noncommunity ground water systems shall submit their plans in a format acceptable to the Department in a timeframe based on grand division. On or before June 30, 2005, ~~Category 1~~ Noncommunity ground water systems in the Western Grand Division are required to submit their plans and every three years subsequently. On or before June 30, 2006, ~~Category 1~~ Noncommunity ground water systems in the Central Grand Division are required to submit their plans and every three years subsequently. On or before June 30, 2007, ~~Category 1~~ Noncommunity ground water systems in the Eastern Grand Division are required to submit their plans and every three years subsequently. A change in ownership shall require the submission of a new wellhead protection plan within ninety (90) days of the change of ownership.

(ii) Category 1, 2, 3 and 4 community systems shall submit plans in a ~~six (6)~~ three (3) year cycle. Once a plan has been submitted, the PWS shall submit ~~an update to the~~ a new plan three (3) years thereafter. ~~The PWS shall submit a complete new plan with an updated contaminant source inventory six (6) years after the submittal of the previous plan. For water systems in compliance with an approved plan in place at the effective date of this rule, updates of wellhead protection plans in a form acceptable to the Department shall be submitted on or before December 31, 2007. This update shall include a review of the potential contaminant sources within the wellhead protection area. For water systems existing at the effective date of this rule, complete new inventories and plans shall be due on December 31, 2010 and at six (6) year intervals thereafter.~~ Complete plans to include contaminant source inventory maps and photographs shall be submitted on or before December 31, 2016 and every three years subsequently.

The addition of new significant potential contaminant sources during the annual potential contaminant source inventory review shall require an addendum to be submitted to the Department within ninety (90) days of the review.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subparagraph (h) of paragraph (1) of Rule 0400-45-01-.34 Drinking Water Source Protection is amended by deleting it in its entirety and substituting instead the following:

(h) Public Water Systems Using a Surface Water Source

A community or nontransient noncommunity PWS using a surface water source must at minimum annually perform a survey within the Critical Source Water Protection Zone for significant potential contaminant sources as well as an inventory of wastewater and stormwater discharges permitted by the Department within Zone A of the Source Water Management Zone. Source water inventory updates for community surface water systems existing at the effective date of this rule shall be submitted to the Department on or before December 31, 2006 and at three (3) year intervals subsequently. Community and nontransient noncommunity systems using a surface water source shall submit complete contaminant source inventories, including maps, showing the potential contaminant sources at three (3) year intervals beginning on December 31, 2015. New water supply sources shall have source approvals in writing by the Department prior to initiation of operation as a public water supply source. An existing water system that was previously not designated as a public water system shall have sixty (60) days upon notification of the determination as a public water system to submit source approval documentation for the Department's review.

The emergency operations plan for community surface water systems shall include a procedure for notifying the Department of any condition which may impact the water source. ~~The community~~

Community PWS shall establish a procedure for notifying the owner or operator of any potential contaminant source which is believed to be discharging substances which may endanger the water supply of the community PWS.

This notification shall cite the provisions of the Tennessee Safe Drinking Water Act specifically including the language in T.C.A. § 68-221-711(5) (i.e., "The discharge by any person of sewage or any other waste or contaminant at such proximity to the intake, well or spring serving a public water system in such a manner or quantity that it will or will likely endanger the health or safety of customers of the system or cause damage to the system" is prohibited) and this rule, as well as any local ordinances which implement or support source water protection. Such notification to the owner or operator shall also request the owner or operator to abate the activity or discharge. A copy of such notification shall be submitted to the Department.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subparagraph (d) of paragraph (1) of Rule 0400-45-01-.35 Consumer Confidence Reports is amended by deleting it in its entirety and substituting instead the following:

(d) For the purpose of this rule, detected means: at or above the levels prescribed by Table 0400-45-01-.14(10)(d) for inorganic contaminants, at or above the levels prescribed by Rule 0400-45-01-.26 for volatile organic chemicals, at or above by Table 0400-45-01-.10(1)(r) for other organic chemicals, at or above the DBP levels prescribed by ~~subpart (5)(b)2(iv) of Rule 0400-45-01-.36~~ subparagraph (10)(d) of Rule 0400-45-01-.14 and at or above the levels prescribed by paragraph (1) of Rule 0400-45-01-.11 for radioactive contaminants.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subparagraph (c) of paragraph (3) of Rule 0400-45-01-.35 Consumer Confidence Reports is amended by adding part 4 to read as follows:

4. A report that contains information regarding a Level 1 or Level 2 Assessment required under Rule 0400-45-01-.41 must include the applicable definitions:

(i) Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

(ii) Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subparts (iv) of part 4 of subparagraph (d) of paragraph (3) of Rule 0400-45-01-.35 Consumer Confidence Reports) is amended by deleting it in its entirety and substituting instead the following:

(iv) For contaminants subject to an MCL, except turbidity ~~and~~ total coliform~~s~~, fecal coliform and E. coli, the highest contaminant level used to determine compliance with an NPDWR and the range of detected levels, as follows:

(I) If compliance with the MCL is determined annually or less frequently: The highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL;

(II) When compliance with the MCL is determined by calculating a running annual average of all samples taken at a monitoring location: the highest average of any of the monitoring locations and the range of all monitoring locations expressed in the same units as the MCL. For the MCLs for TTHM and HAA5 in paragraph (6) of Rule 0400-45-01-.06, systems must include the highest locational running annual average for TTHM and

HAA5 and the range of individual sample results for all monitoring locations expressed in the same units as the MCL. If more than one location exceeds the TTHM or HAA5 MCL, the system must include the locational running annual averages for all locations that exceed the MCL.

(III) When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all monitoring locations: the average and range of detection expressed in the same units as the MCL. The system is required to include individual sample results for the IDSE conducted under Rule 0400-45-01-.37 when determining the range of TTHM and HAA5 results to be reported in the annual consumer confidence report for the calendar year that the IDSE samples were taken.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subparts (vii) through (ix) of part 4 of subparagraph (d) of paragraph (3) of Rule 0400-45-01-.35 Consumer Confidence Reports) are amended by deleting them in their entirety and substituting instead the following:

(vii) For total coliform analytical results until March 31, 2016:

(I) The highest monthly number of positive samples for systems collecting fewer than 40 samples per month; or

(II) The highest monthly percentage of positive samples for systems collecting at least 40 samples per month;

(viii) For fecal coliform and E. coli until March 31, 2016: The total number of positive samples; ~~and~~

(ix) The likely source(s) of detected contaminants to the best of the operator's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments, and should be used when available to the operator. If the operator lacks specific information on the likely source, the report must include one or more of the typical sources for that contaminant listed in Appendix A to this rule, which are most applicable to the system~~.~~; and

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Part 4 of subparagraph (d) of paragraph (3) of Rule 0400-45-01-.35 Consumer Confidence Reports is amended by adding subpart (x) to read as follows:

(x) For E. coli analytical results under Rule 0400-45-01-.41: The total number of positive samples.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subparagraph (h) of paragraph (3) of Rule 0400-45-01-.35 Consumer Confidence Reports is amended by adding part 7 to read as follows:

7. Systems required to comply with Rule 0400-45-01-.41.

(i) Any system required to comply with the Level 1 assessment requirement or a Level 2 assessment requirement that is not due to an *E. coli* MCL violation must include in the report the text found in items (I), (II), and (III) of this subpart as appropriate, filling in the blanks accordingly and the text found in subitems (IV)I and II of this subpart if appropriate.

(I) Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne

pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

(II) During the past year we were required to conduct [INSERT NUMBER OF LEVEL 1ASSESSMENTS] Level 1 assessment(s). [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] Level 1 assessment(s) were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

(III) During the past year [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 assessments were required to be completed for our water system. [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 assessments were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

(IV) Any system that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate:

I. During the past year we failed to conduct all of the required assessment(s).

II. During the past year we failed to correct all identified defects that were found during the assessment.

(ii) Any system required to conduct a Level 2 assessment due to an E. *coli* MCL violation must include in the report the text found in items (I) and (II) of this subpart, filling in the blanks accordingly and the text found in subitems (III)I and II of this subpart, if appropriate.

(I) *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found *E. coli* bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

(II) We were required to complete a Level 2 assessment because we found *E.coli* in our water system. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

(III) Any system that has failed to complete the required assessment or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate:

I. We failed to conduct the required assessment.

II. We failed to correct all sanitary defects that were identified during the assessment that we conducted.

(iii) If a system detects *E. coli* and has violated the *E. coli MCL,* in addition to completing the table as required in part (d)4 of this paragraph, the system must include one or more of the following statements to describe any noncompliance, as applicable:

(I) We had an *E. coli*-positive repeat sample following a total coliform positive routine sample.

(II) We had a total coliform-positive repeat sample following an *E. coli* positive routine sample.

(III) We failed to take all required repeat samples following an *E. coli* positive routine sample.

(IV) We failed to test for *E. coli* when any repeat sample tests positive for total coliform.

(iv) If a system detects *E. coli* and has not violated the *E. coli MCL,* in addition to completing the table as required in part (d)4 of this paragraph, the system may include a statement that explains that although they have detected *E. coli,* they are not in violation of the *E. coli* MCL.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Appendix A TO Rule 0400-45-01-.35 of Rule 0400-45-01-.35 Consumer Confidence Reports is amended by deleting the entries under Microbiological contaminants for "Total Coliform Bacteria," and "Fecal Coliform and E. coli" and replacing those two entries with the following four entries to include in the following order "Total Coliform Bacteria †", "Total Coliform Bacteria ‡", "Fecal Coliform and E. coli †" and "E. coli ‡" to read as follows, with the remainder of the table unchanged:

Appendix A to Rule 0400-45-01-.35

Contaminant (units)	Traditional MCL In mg/L	To convert for CCR, multiply by	MCL in CCR Units	MCLG	Major Sources In drinking water	Health effects language
Microbiological contaminants:						
Total Coliform Bacteria †.	MCL (systems that collect ≥ 40 samples/month) 5% of monthly samples are positive; (systems that collect < 40 samples/month) 1 positive monthly sample.		MCL (systems that collect ≥ 40 samples/month) 5% of monthly samples are positive; (systems that collect < 40 samples/month) 1 positive monthly sample.	0 ~~40~~	Naturally present in the environment.	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed

						and this was a warning of potential problems.
Total Coliform Bacteria ‡	TT		TT	N/A	Naturally present in the environment.	Use language found in 0400-45-01-.35 (3)(h)7(i)I
Fecal Coliform and E. coli ‡.	0		0	0	Human and animal fecal waste.	Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
E. coli ‡	Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli.		Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli.	0	Human and animal fecal waste.	E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea,

						cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Appendix A TO Rule 0400-45-01-.35 of Rule 0400-45-01-.35 Consumer Confidence Reports is amended by adding the following immediately following the table and prior to footnote 1:

† Until March 31, 2016
‡ Beginning April 1, 2016

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Subpart (i) of part 1 of subparagraph (c) of paragraph (6) of Rule 0400-45-01-.36 Disinfectant Residuals, Disinfectant Byproducts, and Disinfection Precursors is amended by deleting it in its entirety and substituting instead the following:

(i) Routine monitoring. Until March 31, 2016, ~~Community~~ community and non-transient non-community water systems that use chlorine or chloramines must measure the residual disinfectant level in the distribution system at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in Rule 0400-45-01-.07. Beginning April 1, 2016, community and non-transient non-community water systems that use chlorine or chloramines must measure the residual disinfectant level in the distribution system at the same point in the distribution system and at the same time as total coliforms are sampled, as specified paragraphs (4) through (8) of Rule 0400-45-01-.41. Subpart H systems may use the results of residual disinfectant concentration sampling conducted under part 6 of subparagraph (b) of paragraph (5) of Rule 0400-45-01-.31 for unfiltered systems or part 3 of subparagraph (c) of paragraph (5) of Rule 0400-45-01-.31 for systems which filter, in lieu of taking separate samples.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Item (I) of subpart (i) of part 1 of subparagraph (a) of paragraph (3) of Rule 0400-45-01-.37 Stage 2 Initial Distribution System Evaluation for Disinfection Byproducts is amended by deleting it in its entirety and substituting instead the following:

(I) TTHM and HAA5 results must be based on samples collected and analyzed in accordance with ~~paragraph (5) of Rule 0400-45-01-.36~~ subparagraph (10)(k) of Rule 0400-45-01-.14. TTHM and HAA5 results must be based on samples collected no earlier than five years prior to the study plan submission date.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Paragraph (3) of Rule 0400-45-01-.40 Ground Water Rule is amended by deleting it in its entirety and substituting instead the following:

(3) Ground water source microbial monitoring and analytical methods.

(a) A ground water system must conduct triggered source water monitoring if the conditions identified in parts 1 and either part 2 or 3 of this subparagraph exist.

1. The system does not provide at least 4-log treatment of viruses (using inactivation, removal or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for each ground water source; and

2. The system is notified that a sample collected under paragraph (1) of Rule 0400-45-01-.07 is total coliform-positive and the sample is not invalidated under paragraph (3) of Rule 0400-45-01-.07~~.~~ until March 31, 2016; or

3. The system is notified that a sample collected under paragraphs (4) through (7) of Rule 0400-45-01-.41 is total coliform positive and the sample is not invalidated under subparagraph (3)(c) of Rule 0400-45-01-.41 beginning April 1, 2016.

(b) A ground water system must collect, within 24 hours of notification of the total coliform positive sample, at least one ground water source sample from each ground water source in use at the time the total coliform-positive sample was collected under paragraph (1) of Rule 0400-45-01-.07 until March 31, 2016, or collected under paragraphs (4) through (7) of Rule 0400-45-01-.41 beginning April 1, 2016, except as provided in part 2 of this subparagraph.

1. The Department may extend the 24-hour time limit on a case-by-case basis if the system cannot collect the ground water source sample within 24 hours due to circumstances beyond its control. In the case of an extension, the Department must specify how much time the system has to collect the sample.

2. If approved by the Department, systems with more than one ground water source may meet the requirements of this subparagraph by sampling representative ground water source or sources. If directed by the Department, systems must submit for Department approval a triggered source water monitoring plan that identifies one or more ground water sources that are representative of each monitoring site in the system's sample siting plan under paragraph (1) of Rule 0400-45-01-.07 until March 31, 2016 and that the system intends to use for representative sampling under this paragraph.

3. Until March 31, 2016, ~~A~~ a ground water system serving 1,000 people or fewer may use a repeat sample collected from a ground water source to meet both the requirements of paragraph (2) of Rule 0400-45-01-.07 and to satisfy the monitoring requirements of this subparagraph for that ground water source only if the Department approves the use of E. coli as a fecal indicator for source water monitoring under this paragraph. If the repeat sample collected from the ground water source is E. coli positive, the system must comply with subparagraph (c) of this paragraph. Beginning April 1, 2016, the use of ground water source sample as a repeat sample shall no longer be allowed to meet the requirements of paragraph (2) of Rule 0400-45-01-.07.

(c) If the Department does not require corrective action under part 2 of subparagraph (a) of paragraph (4) of this rule for fecal-indicator positive source water sample collected under subparagraph (b) of this paragraph that is not invalidated under subparagraph (h) of paragraph (3) this rule, the system must collect five additional source water samples from the same source within 24 hours of being notified of the fecal indicator-positive sample.

(d) Consecutive and Wholesale Systems

1. In addition to the other requirements of this paragraph, a consecutive ground water system that has a total coliform-positive sample collected under paragraph (1) of Rule 0400-45-01-.07 until March 31, 2016, or under Rule 0400-45-01-.41(4) through 0400-45-

01-.41(7) beginning April 1, 2016, must notify the wholesale system(s) within 24 hours of being notified of the total coliform-positive sample.

2. In addition to the other requirements of this paragraph, a wholesale ground water system must comply with subparts (i) and (ii) of this part.

(i) A wholesale ground water system that receives notice from a consecutive system it serves that a sample collected under paragraph (1) of Rule 0400-45-01-07, until March 31, 2016, or under Rule 0400-45-01-.41(4) through 0400-45-01-.41(7) beginning April 1, 2016, is total coliform-positive must, within 24 hours of being notified, collect a sample from its ground water source(s) under subparagraph (b) of this paragraph and analyze it for a fecal indicator under subparagraph (g) of this paragraph.

(ii) If the sample collected under subpart (3)(d)2(i) of this rule is fecal indicator-positive, the wholesale ground water system must notify all consecutive systems served by that ground water source of the fecal indicator source water positive within 24 hours of being notified of the ground water source sample monitoring result and must meet the requirements of subparagraph (c) of this paragraph.

(e) Exceptions to the Triggered Source Water Monitoring Requirements.

1. The Department determines, and documents in writing, that the total coliform positive sample collected under paragraph (1) of Rule 0400-45-01-.07, until March 31, 2016, or under Rule 0400-45-01-.41(4) through 0400-45-01-.41(7) beginning April 1, 2016, is caused by a distribution system deficiency; or

2. The total coliform-positive sample collected under paragraph (1) of Rule 0400-45-01-.07, until March 31, 2016, or under Rule 0400-45-01-.41(4) through 0400-45-01-.41(7) beginning April 1, 2016, is collected at a location that meets Department criteria for distribution system conditions that will cause total coliform-positive samples and the system requests in writing that the Department make the determination as to whether the total coliform positive sample was due to distribution system conditions that will cause total coliform positive samples.

(f) Assessment Source Water Monitoring. If directed by the Department, ground water systems must conduct assessment source water monitoring that meets Department-determined requirements for such monitoring. A ground water system conducting assessment source water monitoring may use a triggered source water sample collected under subparagraph (b) of this paragraph to meet the requirements of subparagraph (f) of this paragraph. Department-determined assessment source water monitoring requirements may include:

1. Collection of a total of 12 ground water source samples that represent each month the system provides ground water to the public,

2. Collection of samples from each well unless the system obtains written Department approval to conduct monitoring at one or more wells within the ground water system that are representative of multiple wells used by that system and that draw water from the same hydrogeologic setting,

3. Collection of standard sample volume of at least 100 ml for fecal indicator analysis regardless of fecal indicator or analytical method used,

4. Analysis of all ground water source samples using one of the analytical methods listed in part (10)(a)6 of Rule 0400-45-01-.14 for the presence of E. coli or enterococci,

5. Collection of ground water samples at a location prior to any treatment of the ground water source unless the Department approves a sampling location after treatment, and

6. Collection of ground water source samples at the well itself unless the system's configuration does not allow for sampling at the well itself and the Department approves an alternate sampling location that is representative of the water quality of that well.

(g) Analytical and Sampling methods.

1. A ground water system subject to the source water monitoring requirements of this paragraph must collect a standard sample volume of at least 100 mL for fecal indicator analysis regardless of the fecal indicator or analytical method used.

2. The analytical method to be used is prescribed in part (10)(a)6 of Rule 0400-45-01-.14.

(h) Invalidation of fecal indicator-positive ground water source sample. A ground water system may obtain Department invalidation of a fecal indicator-positive ground water source sample collected under this paragraph only under the conditions specified in parts 1 and 2 of this subparagraph.

1. The system provides the Department with written notice from the laboratory that improper sample analysis has occurred; or

2. The Department determines and documents in writing that there is substantial evidence that a fecal-indicator positive ground water source sample is not related to source water quality.

(i) If the Department invalidates a fecal indicator-positive ground water sample, the ground water system must collect another source water sample under this paragraph within 24 hours of being notified by the Department of its invalidation decision and have it analyzed for the same fecal indicator using the analytical methods in part (10)(a)6 of Rule 0400-45-01-.14. The Department may extend the 24-hour time limit on a case-by-case basis if the system cannot collect the source water sample within 24 hours due to circumstances beyond its control. In the case of an extension, the Department must specify how much time the system has to collect the sample.

(j) Sampling location. Any ground water source sample required under this paragraph must be collected at a location prior to any treatment of the ground water source unless the Department approves a sampling location after treatment.

1. If the system's configuration does not allow sampling at the well itself, the system may collect a sample at a Department-approved location to meet the requirements of this paragraph if the sample is representative of the water quality of that well.

(k) New Sources. If directed by the Department, a ground water system that places a new ground water source into service after November 30, 2009, must conduct assessment source water monitoring under subparagraph (f) of this paragraph. If directed by the Department, the system must begin monitoring before the ground water source is used to provide water to the public.

(l) Public Notification. A ground water system with a ground water source sample collected under this paragraph that is fecal indicator-positive and that is not invalidated under subparagraph (h) of this paragraph, including consecutive systems served by the ground water source, must conduct public notification under paragraph (2) of Rule 0400-45-01-.19.

(m) Monitoring Violations. Failure to meet the requirements of subparagraphs (a) through (k) of this paragraph is a monitoring violation and requires the ground water system to provide public notification under paragraph (4) of Rule 0400-45-01-.19.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Part 3 of subparagraph (a) of paragraph (6) of Rule 0400-45-01-.40 Ground Water Rule is amended by deleting it in its entirety and substituting instead the following:

3. If a ground water system subject to the requirements of subparagraph (a) of paragraph (3) of this rule does not conduct source water monitoring under part 2 of subparagraph (e) of paragraph (3) of this rule, the system must provide documentation to the

Department within 30 days of the total coliform positive sample that it met the Department criteria and request in writing that the Department make the determination.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

Part 4 of subparagraph (b) of paragraph (6) of Rule 0400-45-01-.40 Ground Water Rule is amended by inserting the phrase "until March 31, 2016, or under Rule 0400-45-01-.41(3) beginning April 1, 2016" at the end of the first sentence such that as amended the part shall read:

4. For consecutive systems, documentation of notification to the wholesale system(s) of total-coliform positive samples that are not invalidated under paragraph (3) of Rule 0400-45-01-.07 until March 31, 2016, or under Rule 0400-45-01-.41(3) beginning April 1, 2016. Documentation shall be kept for a period of not less than five years.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

New Rule

Chapter 0400-45-01
Public Water Systems

Chapter 0400-45-01 Public Water Systems is amended by adding a new rule to read as follows:

0400-45-01-.41 Revised Total Coliform Rule

(1) General requirements.

(a) The requirements of this rule constitute both maximum contaminant level and treatment technique requirements as national primary drinking water regulations.

(b) The provisions of this rule apply to all public water systems.

(c) Systems must comply with the provisions of this rule beginning April 1, 2016, unless otherwise specified in this rule.

(d) Failure to comply with the applicable requirements of paragraphs (1) through (11) of this rule, including requirements established by the Department pursuant to these provisions, is a violation of the national primary drinking water regulations under this rule.

(2) Analytical methods and laboratory certification.

(a) Analytical methodology.

1. The standard sample volume required for analysis, regardless of analytical method used, is 100 ml.

2. Systems need only determine the presence or absence of total coliforms and E. coli; a determination of density is not required.

3. The time from sample collection to initiation of test medium incubation may not exceed 30 hours. Systems are encouraged but not required to hold samples below 10 deg. C during transit.

4. If water having residual chlorine (measured as free, combined, or total chlorine) is to be analyzed, sufficient sodium thiosulfate ($Na_2S_2O_3$) must be added to the sample bottle before sterilization to neutralize any residual chlorine in the water sample. Dechlorination procedures are addressed in Section 9060A.2 of Standard Methods for the Examination of Water and Wastewater (20^{th} and 21^{st} editions).

5. Systems must conduct total coliform and E. coli analyses in accordance with one of the analytical methods in the following table or one of the alternative methods listed in Rule 0400-45-01-.14(10)(a)4.

Table 0400-45-01-.41(2)(a)5.

Organism	Methodology category	Method[1]	Citation[1]
Total Coliforms			
	Lactose Fermentation Methods….	Standard Total Coliform Fermentation Technique.	Standard Methods 9221 B.1, B.2 (20th ed.; 21st ed) [2 3] Standard Methods Online 9221 B.1, B.2-99 [2 3]
		Presence-Absence (P-A) Coliform Test.	Standard Methods 9221 D.1, D.2 (20th ed.; 21st ed) [2 7] Standard Methods Online 9221 D.1, D.2-99 [2 7]
	Membrane Filtration Methods….	Standard Total Coliform Membrane Filter Procedure.	Standard Methods 9222 B, C (20th ed.; 21st ed) [2 4] Standard Methods Online 9222 B-97 [2 4], 9222 C-97 [2 4]
		Membrane Filtration using MI medium. m-coliBlue24® Test [2 4] Chromocult [2 4].	EPA Method 1604 [2]
	Enzyme Substrate Methods….	Colilert®	Standard Methods 9223 B (20th ed.; 21st ed.) [2 5] Standard Methods Online 9223 B-97 2 5
		Colisure®	Standard Methods 9223 B (20th ed.; 21st ed) [2 5 6] Standard Methods Online 9223 B-97 [2 5 6]
		E*Colite® Test [2]. Readycult® Test [2].	Modified Colitag® Test [2]
Escherichia coli.			
	Escherichia coli Procedure (following Lactose Fermentation Methods).	EC-MUG medium	Standard Methods 9221 F.1 (20th ed.; 21st ed) [2]
	Escherichia coli Partition Method	EC broth with MUG (EC-MUG)	Standard Methods 9222 G.1c(2) (20th ed.; 21st ed) [2 8]
		NA-MUG medium	Standard Methods 9222 G.1c(1) (20th ed.; 21st ed) [2]
	Membrane Filtration Methods	Membrane Filtration using MI medium. m-ColiBlue24® Test [2 4] Chromocult®	EPA Method 1604 [2]
	Enzyme Substrate Methods	Colilert®	Standard Methods 9223 B (20th ed.; 21st ed) [2 5] Standard Methods Online 9223 B-97 [2 5 6]
		Colisure®	Standard Methods 9223 B (20th ed.; 21st ed) [2 5 6] Standard Methods

			Online 9223 B-97 [2 5 6]
		E*Colite® Test [2]. Readycult® Test [2]. Modified Colitag® Test [2].	

[1] The procedures must be done in accordance with the documents listed in footnote 2 below, Incorporation by Reference. For Standard Methods, either editions, 20th (1998) or 21st (2005), may be used. For the Standard Methods Online, the year in which each method was approved by the Standard Methods Committee is designated by the last two digits following the hyphen in the method number. The methods listed are the only online versions that may be used. For vendor methods, the date of the method listed in footnote 2 is the date/version of the approved method. The methods listed are the only versions that may be used for compliance with this rule. Laboratories should be careful to use only the approved versions of the methods, as product package inserts may not be the same as the approved versions of the methods.

[2] Incorporation by reference:

(i) American Public Health Association, 800 I Street, NW., Washington, DC 20001.

(I) ''Standard Methods for the Examination of Water and Wastewater,''20th edition (1998);

I. Standard Methods 9221, ''Multiple-Tube Fermentation Technique for Members of the Coliform Group,'' B.1, B.2, ''Standard Total Coliform Fermentation Technique.''

II. Standard Methods 9221, ''Multiple-Tube Fermentation Technique for Members of the Coliform Group,'' D.1, D.2, ''Presence-Absence (P–A) Coliform Test.''

III. Standard Methods 9222, ''Membrane Filter Technique for Members of the Coliform Group,'' B, ''Standard Total Coliform Membrane Filter Procedure.''

IV. Standard Methods 9222, ''Membrane Filter Technique for Members of the Coliform Group,'' C, ''Delayed-Incubation Total Coliform Procedure.''

V. Standard Methods 9223, ''Enzyme Substrate Coliform Test,'' B, ''Enzyme Substrate Test,'' Colilert® and Colisure®.

VI. Standard Methods 9221, ''Multiple Tube Fermentation Technique for Members of the Coliform Group,'' F.1, ''Escherichia coli Procedure: EC–MUG medium.''

VII. Standard Methods 9222, ''Membrane Filter Technique for Members of the Coliform Group,'' G.1.c(2), ''Escherichia coli Partition Method: EC broth with MUG (EC-MUG).''

VIII. Standard Methods 9222, ''Membrane Filter Technique for Members of the Coliform Group,'' G.1.c(1), ''Escherichia coli Partition Method: NA–MUG medium.''

(II) ''Standard Methods for the Examination of Water and Wastewater,'' 21st edition (2005);

I. Standard Methods 9221, ''Multiple-Tube Fermentation Technique for Members of the Coliform Group,'' B.1, B.2, ''Standard Total Coliform Fermentation Technique.''

II. Standard Methods 9221, ''Multiple-Tube Fermentation Technique for Members of the Coliform Group,'' D.1, D.2, ''Presence-Absence (P–A) Coliform Test.''

III. Standard Methods 9222, ''Membrane Filter Technique for Members of the Coliform Group,'' B, ''Standard Total Coliform Membrane Filter Procedure.''

IV. Standard Methods 9222, ''Membrane Filter Technique for Members of the Coliform Group,'' C, ''Delayed-Incubation Total Coliform Procedure.''

V. Standard Methods 9223, ''Enzyme Substrate Coliform Test,'' B, ''Enzyme Substrate Test,'' Colilert® and Colisure®.

VI. Standard Methods 9221, ''Multiple Tube Fermentation Technique for Members of the Coliform Group,'' F.1, ''Escherichia coli Procedure: EC–MUG medium.''

VII. Standard Methods 9222, ''Membrane Filter Technique for Members of the Coliform Group,'' G.1.c(2), ''Escherichia coli Partition Method: EC broth with MUG (EC–MUG).''

VIII. Standard Methods 9222, ''Membrane Filter Technique for Members of the Coliform Group,'' G.1.c(1), ''Escherichia coli Partition Method: NA–MUG medium.''

(III) ''Standard Methods Online'' available at http://www.standardmethods.org:

I. Standard Methods Online 9221, ''Multiple-Tube Fermentation Technique for Members of the Coliform Group'' (1999), B.1, B.2–99, ''Standard Total Coliform Fermentation Technique.''

II. Standard Methods Online 9221, ''Multiple-Tube Fermentation Technique for Members of the Coliform Group'' (1999), D.1, D.2–99, ''Presence- Absence (P–A) Coliform Test.''

III. Standard Methods Online 9222, ''Membrane Filter Technique for Members of the Coliform Group'' (1997), B–97, ''Standard Total Coliform Membrane Filter Procedure.''

IV. Standard Methods Online 9222, ''Membrane Filter Technique for Members of the Coliform Group'' (1997), C–97, ''Delayed-Incubation Total Coliform Procedure.''

V. Standard Methods Online 9223, ''Enzyme Substrate Coliform Test'' (1997), B–97, ''Enzyme Substrate Test'', Colilert® and Colisure®.

(ii) Charm Sciences, Inc., 659 Andover Street, Lawrence, MA 01843–1032, telephone 1–800–343–2170;

(I) E*Colite®—''Charm E*Colite™ Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Drinking Water,'' January 9, 1998.

(iii) CPI International, Inc., 5580 Skylane Blvd., Santa Rosa, CA, 95403, telephone 1–800–878–7654;

(I) modified Colitag®, ATP D05– 0035—''Modified Colitag™ Test Method for the Simultaneous Detection of E. coli and other Total Coliforms in Water,'' August 28, 2009.

(iv) EMD Millipore (a division of Merck KGaA, Darmstadt Germany), 290 Concord Road, Billerica, MA 01821, telephone 1–800–645–5476;

(I) Chromocult—''Chromocult® Coliform Agar Presence/Absence Membrane Filter Test Method for Detection and Identification of Coliform Bacteria and Escherichia coli for Finished Waters,'' November 2000,Version 1.0.

(II) Readycult®—''Readycult® Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Finished Waters,'' January 2007, Version 1.1.

(v) EPA's Water Resource Center (MC–4100T), 1200 Pennsylvania Avenue NW., Washington, DC 20460, telephone 1–202–566–1729;

(I) EPA Method 1604, EPA 821–R–02–024—''EPA Method 1604: Total Coliforms and Escherichia coli in Water by Membrane Filtration Using a Simultaneous Detection Technique (MI Medium),'' September 2002, http:// www.epa.gov/nerlcwww/1604sp02.pdf.

(vi) Hach Company, P.O. Box 389, Loveland, CO 80539, telephone 1–800– 604–3493:

(I) m-ColiBlue24®—''Membrane Filtration Method m-ColiBlue24® Broth,'' Revision 2, August 17, 1999.

[3] Lactose broth, as commercially available, may be used in lieu of lauryl tryptose broth, if the system conducts at least 25 parallel tests between lactose broth and lauryl tryptose broth using the water normally tested, and if the findings from this comparison demonstrate that the false-positive rate and false-negative rate for total coliforms, using lactose broth, is less than 10 percent.

[4] All filtration series must begin with membrane filtration equipment that has been sterilized by autoclaving. Exposure of filtration equipment to UV light is not adequate to ensure sterilization. Subsequent to the initial autoclaving, exposure of the filtration equipment to UV light may be used to sanitize the funnels between filtrations within a filtration series. Alternatively, membrane filtration equipment that is pre-sterilized by the manufacturer (i.e., disposable funnel units) may be used.

[5] Multiple-tube and multi-well enumerative formats for this method are approved for use in presence-absence determination under this rule.

[6] Colisure® results may be read after an incubation time of 24 hours.

[7] A multiple tube enumerative format, as described in Standard Methods for the Examination of Water and Wastewater 9221, is approved for this method for use in presence-absence determination under this regulation.

[8] The following changes must be made to the EC broth with MUG (EC–MUG) formulation: Potassium dihydrogen phosphate, KH2PO4, must be 1.5g, and 4-methylumbelliferyl-Beta-D-glucuronide must be 0.05 g.

(b) Laboratory certification. Systems must have all compliance samples required under this rule analyzed by a laboratory certified by the Department to analyze drinking water samples. The laboratory used by the system must be certified for each method (and associated contaminant(s)) used for compliance monitoring analyses under this rule.

(3) General monitoring requirements for all public water systems.

(a) Sample siting plans.

1. Systems must develop a written sample siting plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system not later than March 31, 2016. These plans are subject to Department review and revision. Systems must collect total coliform samples according to the written sample siting plan. Monitoring required by paragraphs (4) through (8) of this rule may take place at a customer's premise, dedicated sampling station, or other designated compliance sampling location. Routine and repeat sample sites and any sampling points necessary to meet the requirements of Rule 0400-45-01-.40 must be reflected in the sampling plan.

2. Systems must collect samples at regular time intervals throughout the month, except that systems that use only ground water and serve 4,900 or fewer people may collect all required samples on a single day if they are taken from different sites.

3. Systems must take at least the minimum number of required samples even if the system has had an E. coli MCL violation or has exceeded the coliform treatment technique triggers in subparagraph (9)(a) of this rule.

4. A system may conduct more compliance monitoring than is required by this subpart to investigate potential problems in the distribution system and use monitoring as a tool to assist in uncovering problems. A system may take more than the minimum number of required routine samples and must include the results in calculating whether the coliform treatment technique trigger in subparts (9)(a)1(i) and (ii) of this rule has been exceeded only if the samples are taken in accordance with the existing sample siting plan and are representative of water throughout the distribution system.

5. Systems must identify repeat monitoring locations in the sample siting plan. Unless the provisions of subpart (i) of this part are met, the system must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one service connection away from the end of the distribution system, the system must still take all required repeat samples. However, the Department may allow an alternative sampling location in lieu of the requirement to collect at least one repeat sample upstream or downstream of the original sampling site. Systems required to conduct triggered source water monitoring under Rule 0400-45-01-.40(3)(a) must take ground water source sample(s) in addition to repeat samples required under this rule.

   (i) Systems may propose repeat monitoring locations to the Department that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan. The system must design its SOP to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations. The Department may modify the SOP or require alternative monitoring locations as needed.

   (ii) Reserved.

6. The Department may review, revise, and approve, as appropriate, repeat sampling proposed by systems under subpart 5(i) of this subparagraph. The system must demonstrate that the sample siting plan remains representative of the water quality in the distribution system. The Department may determine that monitoring at the entry point to the distribution system (especially for un-disinfected ground water systems) is effective to differentiate between potential source water and distribution system problems.

(b) Special purpose samples. Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, must not be used to determine whether the coliform treatment technique trigger has been exceeded, provided the water is not served to customers before negative analytical results are obtained. Samples

representing water served to customers prior to obtaining analytical results shall not be special purpose samples and shall count toward compliance with the coliform treatment technique trigger. Repeat samples taken pursuant to paragraph (8) of this rule are not considered special purpose samples, and must be used to determine whether the coliform treatment technique trigger has been exceeded.

(c) Invalidation of total coliform samples. A total coliform-positive sample invalidated under this subparagraph does not count toward meeting the minimum monitoring requirements of this rule.

1. The Department may invalidate a total coliform-positive sample only if the conditions of subpart (i), (ii), or (iii) of this part are met.

(i) The laboratory establishes that improper sample analysis caused the total coliform-positive result.

(ii) The Department, on the basis of the results of repeat samples collected as required under subparagraph (8)(a) of this rule, determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. The Department cannot invalidate a sample on the basis of repeat sample results unless all repeat sample(s) collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected at a location other than the original tap are total coliform-negative (e.g., a total coliform-positive sample cannot be invalidated on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the system has only one service connection).

(iii) The Department has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. In this case, the system must still collect all repeat samples required under subparagraph (8)(a) of this rule, and use them to determine whether a coliform treatment technique trigger in paragraph (9) of this rule has been exceeded. To invalidate a total coliform-positive sample under this subparagraph, the decision and supporting rationale must be documented in writing, and approved and signed by the supervisor of the Department official who recommended the decision. The Department shall make this document available to EPA and the public. The written documentation must identify the specific cause of the total coliform-positive sample, and what action the system has taken, or will take, to correct this problem. The Department may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.

2. A laboratory must invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the Multiple-Tube Fermentation Technique), produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P–A) Coliform Test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., Membrane Filter Technique). If a laboratory invalidates a sample because of such interference, the system must collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The system must continue to re-sample within 24 hours and have the samples analyzed until it obtains a valid result. The Department may waive the 24-hour time limit on a case-by-case basis. Alternatively, the Department may implement criteria for waiving the 24-hour sampling time limit to use in lieu of case-by-case extensions.

(4) Routine monitoring requirements for non-community water systems serving 1,000 or fewer people using only ground water.

(a) General.

1. The provisions of this paragraph apply to non-community water systems using only ground water (except ground water under the direct influence of surface water, as defined in Rule 0400-45-01-.04) and serving 1,000 or fewer people.

2. Following any total coliform-positive sample taken under the provisions of this paragraph, systems must comply with the repeat monitoring requirements and E. coli analytical requirements in paragraph (8) of this rule.

3. Once all monitoring required by this paragraph and paragraph (8) of this rule for a calendar month has been completed, systems must determine whether any coliform treatment technique triggers specified in paragraph (9) of this rule have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by paragraph (9) of this rule.

4. For the purpose of determining eligibility for remaining on or qualifying for quarterly monitoring under the provisions of parts (d)4 and (e)2 of this paragraph for transient non-community water systems, the Department may elect to not count monitoring violations under part (10)(c)1 of this rule if the missed sample is collected no later than the end of the monitoring period following the monitoring period in which the sample was missed. The system must collect the make-up sample in a different week than the routine sample for that monitoring period and should collect the sample as soon as possible during the monitoring period. This authority does not affect the provisions of parts (10)(c)1 and (11)(c)4 of this rule.

(b) Monitoring frequency for total coliforms. Systems must monitor each calendar quarter that the system provides water to the public, except for seasonal systems or as provided under subparagraphs (c) through (e) and (g) of this paragraph. Seasonal systems must meet the monitoring requirements of subparagraph (f) of this paragraph.

(c) Transition to the Revised Total Coliform Rule.

1. Systems, including seasonal systems, must continue to monitor according to the total coliform monitoring schedules under Rule 0400-45-01-.07 that were in effect on March 31, 2016, unless any of the conditions for increased monitoring in subparagraph (d) of this paragraph are triggered on or after April 1, 2016, or unless otherwise directed by the Department.

2. Beginning April 1, 2016, the Department must perform a special monitoring evaluation during each sanitary survey to review the status of the system, including the distribution system, to determine whether the system is on an appropriate monitoring schedule. After the Department has performed the special monitoring evaluation during each sanitary survey, the Department may modify the system's monitoring schedule, as necessary, or it may allow the system to stay on its existing monitoring schedule, consistent with the provisions of this paragraph. For seasonal systems on quarterly monitoring, this evaluation must include review of the approved sample siting plan, which must designate the time period(s) for monitoring based on site-specific considerations (e.g., during periods of highest demand or highest vulnerability to contamination). The seasonal system must collect compliance samples during these time periods.

(d) Increased Monitoring Requirements for systems on quarterly monitoring. A system on quarterly monitoring that experiences any of the events identified in parts 1 through 4 of this subparagraph must begin monthly monitoring the month following the event. The system must continue monthly or quarterly monitoring until the requirements in subparagraph (e) of this paragraph for quarterly monitoring are met. A system on monthly monitoring for reasons other than those identified in parts 1 through 4 of this subparagraph is not considered to be on increased monitoring for the purposes of subparagraph (e) of this paragraph.

1. The system triggers a Level 2 assessment or two Level 1 assessments under the provisions of paragraph (9) of this rule in a rolling 12-month period.

2. The system has an E. coli MCL violation.

3. The system has a coliform treatment technique violation.

4. The system has two monitoring violations of this rule, or one monitoring violation of this rule and one Level 1 assessment under the provisions of paragraph (9) of this rule in a rolling 12-month period for a system on quarterly monitoring.

(e) Requirements for returning to quarterly monitoring. The Department may reduce the monitoring frequency for a system on monthly monitoring triggered under subparagraph (d) of this paragraph to quarterly monitoring if the system meets the criteria in parts 1 and 2 of this subparagraph.

1. Within the last 12 months, the system must have a completed sanitary survey or a site visit by the Department or a voluntary Level 2 assessment by a party approved by the Department, be free of sanitary defects, and have a protected water source; and

2. The system must have a clean compliance history for a minimum of 12 months.

(f) Seasonal systems.

1. Beginning April 1, 2016, all seasonal systems must demonstrate completion of a Department-approved start-up procedure, which must include a negative total coliform sample result as a part of that procedure prior to serving water to the public.

2. A seasonal system must monitor every month that it is in operation unless it meets the criteria in subparts (i) and (ii) of this part to be eligible for monitoring less frequently than monthly beginning April 1, 2016, except as provided under subparagraph (c) of this paragraph.

(i) Seasonal systems monitoring less frequently than monthly must have an approved sample siting plan that designates the time period for monitoring based on site-specific considerations (e.g., during periods of highest demand or highest vulnerability to contamination). Seasonal systems must collect compliance samples during this time period.

(ii) To be eligible for quarterly monitoring, the system must meet the criteria in subparagraph (e) of this paragraph.

(g) Additional routine monitoring the month following a total coliform-positive sample. Systems collecting samples on a quarterly frequency must conduct additional routine monitoring the month following one or more total coliform-positive samples (with or without a Level 1 treatment technique trigger). Systems must collect at least three routine samples during the next month. Systems may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. Systems must use the results of additional routine samples in coliform treatment technique trigger calculations under subparagraph (9)(a) of this rule.

(5) Routine monitoring requirements for community water systems serving 1,000 or fewer people using only ground water.

(a) General.

1. The provisions of this paragraph apply to community water systems using only ground water (except ground water under the direct influence of surface water, as defined in Rule 0400-45-01-.04) and serving 1,000 or fewer people.

2. Following any total coliform-positive sample taken under the provisions of this paragraph, systems must comply with the repeat monitoring requirements and E. coli analytical requirements in paragraph (8) of this rule.

3. Once all monitoring required by this paragraph and in paragraph (8) of this rule for a calendar month has been completed, systems must determine whether any coliform

treatment technique triggers specified in paragraph (9) of this rule have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by paragraph (9) of this rule.

(b) Monitoring frequency for total coliforms. The monitoring frequency for total coliforms is one sample/month.

(c) Transition to the Revised Total Coliform Rule.

1. All systems must continue to monitor according to the total coliform monitoring schedules under Rule 0400-45-01-.07 that were in effect on March 31, 2016, unless otherwise directed by the Department.

2. Beginning April 1, 2016, the Department must perform a special monitoring evaluation during each sanitary survey to review the status of the system, including the distribution system.

(d) Additional routine monitoring the month following a total coliform-positive sample. Systems must collect at least three routine samples during the next month. Systems may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. Systems must use the results of additional routine samples in coliform treatment technique trigger calculations.

(6) Routine monitoring requirements for subpart H public water systems serving 1,000 or fewer people.

(a) General.

1. The provisions of this paragraph apply to subpart H public water systems of this part serving 1,000 or fewer people.

2. Following any total coliform-positive sample taken under the provisions of this paragraph, systems must comply with the repeat monitoring requirements and E. coli analytical requirements in paragraph (8) of this rule.

3. Once all monitoring required by this paragraph and in paragraph (8) of this rule for a calendar month has been completed, systems must determine whether any coliform treatment technique triggers specified in paragraph (9) of this rule have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by paragraph (9) of this rule.

4. Seasonal systems.

(i) Beginning April 1, 2016, all seasonal systems must demonstrate completion of a Department-approved start-up procedure, which must include a negative total coliform sample result as a part of the procedure prior to serving water to the public.

(ii) Reserved.

(b) Routine monitoring frequency for total coliforms. Subpart H systems of this paragraph (including consecutive systems) must monitor monthly. Systems may not reduce monitoring.

(c) Unfiltered subpart H systems. A subpart H system of this paragraph that does not practice filtration in compliance with Rules 0400-45-01-.08 (Turbidity Sampling and Analytical Requirements), 0400-45-01-.31 (Filtration and Disinfection) and 0400-45-01-.39 (Enhanced Treatment for Cryptosporidium) must collect at least one total coliform sample near the first service connection each day the turbidity level of the source water, measured as specified in Rule 0400-45-01-.08(3)(a), exceeds 1 NTU. When one or more turbidity measurements in any day exceed 1 NTU, the system must collect this coliform sample within 24 hours of the first exceedance, unless the Department determines that the system, for logistical reasons outside the system's control, cannot have the sample analyzed within 30 hours of collection and identifies an

alternative sample collection schedule. Sample results from this coliform monitoring must be included in determining whether the coliform treatment technique trigger in paragraph (9) of this rule has been exceeded.

(7) Routine monitoring requirements for public water systems serving more than 1,000 people.

(a) General.

1. The provisions of this paragraph apply to public water systems serving more than 1,000 persons.

2. Following any total coliform-positive sample taken under the provisions of this paragraph, systems must comply with the repeat monitoring requirements and E. coli analytical requirements in paragraph (8) of this rule.

3. Once all monitoring required by this paragraph and in paragraph (8) of this rule for a calendar month has been completed, systems must determine whether any coliform treatment technique triggers specified in paragraph (9) of this rule have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by paragraph (9) of this rule.

4. Seasonal systems.

(i) Beginning April 1, 2016, all seasonal systems must demonstrate completion of a Department-approved start-up procedure, which must include a negative total coliform sample result as a part of the procedure prior to serving water to the public.

(ii) Reserved.

(b) Monitoring frequency for total coliforms. The monitoring frequency for total coliforms is based on the population served by the system, as follows:

Total Coliform Monitoring Frequency for
Public Water Systems Serving More than 1,000 People

Population Served	Minimum number of samples per month
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120

220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,000 or more	480

(c) Unfiltered subpart H systems. A subpart H system of this rule that does not practice filtration in compliance with Rules 0400-45-01-.08 (Turbidity Sampling and Analytical Requirements), 0400-45-01-.31 (Filtration and Disinfection) and 0400-45-01-.39 (Enhanced Treatment for Cryptosporidium) must collect at least one total coliform sample near the first service connection each day the turbidity level of the source water, measured as specified in Rule 0400-45-01-.08(3)(a), exceeds 1 NTU. When one or more turbidity measurements in any day exceed 1 NTU, the system must collect this coliform sample within 24 hours of the first exceedance, unless the Department determines that the system, for logistical reasons outside the system's control, cannot have the sample analyzed within 30 hours of collection and identifies an alternative sample collection schedule. Sample results from this coliform monitoring must be included in determining whether the coliform treatment technique trigger in paragraph (9) of this rule has been exceeded.

(8) Repeat monitoring and E. coli requirements.

(a) Repeat monitoring.

1. If a sample taken under paragraphs (4) through (7) of this rule is total coliform-positive, the system must collect a set of repeat samples within 24 hours of being notified of the positive result. The system must collect no fewer than three repeat samples for each total coliform-positive sample found. The Department may extend the 24-hour limit on a case-by-case basis if the system has a logistical problem in collecting the repeat samples within 24 hours that is beyond its control. Alternatively, the Department may implement criteria for the system to use in lieu of case-by-case extensions. In the case of an extension, the Department must specify how much time the system has to collect the repeat samples. The Department cannot waive the requirement for a system to collect repeat samples in parts 1 through 3 of this subparagraph.

2. The system must collect all repeat samples on the same day, except that the Department may allow a system with a single service connection to collect the required set of repeat samples over a three-day period or to collect a larger volume repeat sample(s) in one or more sample containers of any size, as long as the total volume collected is at least 300 ml.

3. The system must collect an additional set of repeat samples in the manner specified in parts 1 through 3 of this subparagraph if one or more repeat samples in the current set of repeat samples is total coliform-positive. The system must collect the additional set of repeat samples within 24 hours of being notified of the positive result, unless the Department extends the limit as provided in part 1 of this subparagraph. The system must continue to collect additional sets of repeat samples until either total coliforms are not detected in one complete set of repeat samples or the system determines that a coliform treatment technique trigger specified in subparagraph (9)(a) of this rule has been exceeded as a result of a repeat sample being total coliform-positive and notifies the Department. If a trigger identified in paragraph (9) of this rule is exceeded as a result of a routine sample being total coliform-positive, systems are required to conduct only one round of repeat monitoring for each total coliform-positive routine sample.

4. After a system collects a routine sample and before it learns the results of the analysis of that sample, if it collects another routine sample(s) from within five adjacent service connections of the initial sample, and the initial sample, after analysis, is found to contain total coliforms, then the system may count the subsequent sample(s) as a repeat sample instead of as a routine sample.

5. Results of all routine and repeat samples taken under paragraphs (4) through (8) of this rule not invalidated by the Department must be used to determine whether a coliform treatment technique trigger specified in paragraph (9) of this rule has been exceeded.

(b) Escherichia coli (E. coli) testing.

1. If any routine or repeat sample is total coliform-positive, the system must analyze that total coliform-positive culture medium to determine if E. coli are present. If E. coli are present, the system must notify the State by the end of the day when the system is notified of the test result, unless the system is notified of the result after the Department office is closed and the Department does not have either an after-hours phone line or an alternative notification procedure, in which case the system must notify the Department before the end of the next business day.

2. The Department has the discretion to allow a system, on a case-by-case basis, to forgo E. coli testing on a total coliform-positive sample if that system assumes that the total coliform-positive sample is E. coli-positive. Accordingly, the system must notify the Department as specified in part 1 of subparagraph (b) of this paragraph and the provisions of Rule 0400-45-01-.06(4)(d) apply.

(9) Coliform treatment technique triggers and assessment requirements for protection against potential fecal contamination.

(a) Treatment technique triggers. Systems must conduct assessments in accordance with subparagraph (b) of this paragraph after exceeding treatment technique triggers in parts 1 and 2 of this subparagraph.

1. Level 1 treatment technique triggers.

(i) For systems taking 40 or more samples per month, the system exceeds 5.0% total coliform-positive samples for the month.

(ii) For systems taking fewer than 40 samples per month, the system has two or more total coliform-positive samples in the same month.

(iii) The system fails to take every required repeat sample after any single total coliform-positive sample.

2. Level 2 treatment technique triggers.

(i) An E. coli MCL violation, as specified paragraph (10) of this rule.

(ii) A second Level 1 trigger as defined in part 1 of this subparagraph, within a rolling 12-month period, unless the Department has determined a likely reason that the samples that caused the first Level 1 treatment technique trigger were total coliform-positive and has established that the system has corrected the problem.

(b) Requirements for assessments.

1. Systems must ensure that Level 1 and 2 assessments are conducted in order to identify the possible presence of sanitary defects and defects in distribution system coliform monitoring practices. Level 2 assessments must be conducted by parties approved by the Department.

2. When conducting assessments, systems must ensure that the assessor evaluates minimum elements that include review and identification of inadequacies in sample sites; sampling protocol; sample processing; atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., small ground water systems); and existing water quality monitoring data. The system must conduct the assessment consistent with any Department directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system.

3. Level 1 Assessments. A system must conduct a Level 1 assessment consistent with Department requirements if the system exceeds one of the treatment technique triggers in part (a)1 of this paragraph.

   (i) The system must complete a Level 1 assessment as soon as practical after any trigger in part (a)1 of this paragraph. In the completed assessment form, the system must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective actions not already completed. The assessment form may also note that no sanitary defects were identified. The system must submit the completed Level 1 assessment form to the Department within 30 days after the system learns that it has exceeded a trigger.

   (ii) If the Department reviews the completed Level 1 assessment and determines that the assessment is not sufficient (including any proposed timetable for any corrective actions not already completed), the Department must consult with the system. If the Department requires revisions after consultation, the system must submit a revised assessment form to the Department on an agreed-upon schedule not to exceed 30 days from the date of the consultation.

   (iii) Upon completion and submission of the assessment form by the system, the Department must determine if the system has identified a likely cause for the Level 1 trigger and, if so, establish that the system has corrected the problem, or has included a schedule acceptable to the State for correcting the problem.

4. Level 2 Assessments. A system must ensure that a Level 2 assessment consistent with Department requirements is conducted if the system exceeds one of the treatment technique triggers in part (a)2 of this paragraph. The system must comply with any expedited actions or additional actions required by the Department in the case of an E. coli MCL violation.

   (i) The system must ensure that a Level 2 assessment is completed by the Department or by a party approved by the Department as soon as practical after any trigger in part (a)2 of this paragraph. The system must submit a completed Level 2 assessment form to the Department within 30 days after the system learns that it has exceeded a trigger. The assessment form must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective actions not already completed. The assessment form may also note that no sanitary defects were identified.

   (ii) The system may conduct Level 2 assessments if the system has staff or management with the certification or qualifications specified by the Department unless otherwise directed by the Department.

   (iii) If the Department reviews the completed Level 2 assessment and determines that the assessment is not sufficient (including any proposed timetable for any corrective actions not already completed), the Department must consult with the system. If the Department requires revisions after consultation, the system must submit a revised assessment form to the Department on an agreed-upon schedule not to exceed 30 days.

(iv) Upon completion and submission of the assessment form by the system, the Department must determine if the system has identified a likely cause for the Level 2 trigger and determine whether the system has corrected the problem, or has included a schedule acceptable to the Department for correcting the problem.

(c) Corrective Action. Systems must correct sanitary defects found through either Level 1 or 2 assessments conducted under subparagraph (b) of this paragraph. For corrections not completed by the time of submission of the assessment form, the system must complete the corrective action(s) in compliance with a timetable approved by the Department in consultation with the system. The system must notify the Department when each scheduled corrective action is completed.

(d) Consultation. At any time during the assessment or corrective action phase, either the water system or the Department may request a consultation with the other party to determine the appropriate actions to be taken. The system may consult with the Department on all relevant information that may impact on its ability to comply with a requirement of this rule, including the method of accomplishment, an appropriate timeframe, and other relevant information.

(10) Violations.

(a) E. coli MCL Violation. A system is in violation of the MCL for E. coli when any of the conditions identified in parts 1 through 4 of this subparagraph occur.

1. The system has an E. coli-positive repeat sample following a total coliform-positive routine sample.

2. The system has a total coliform-positive repeat sample following an E. coli-positive routine sample.

3. The system fails to take all required repeat samples following an E. coli-positive routine sample.

4. The system fails to test for E. coli when any repeat sample tests positive for total coliform.

(b) Treatment technique violation.

1. A treatment technique violation occurs when a system exceeds a treatment technique trigger specified in subparagraph (9)(a) of this rule and then fails to conduct the required assessment or corrective actions within the timeframe specified in subparagraphs (9)(b) and (c) of this rule.

2. A treatment technique violation occurs when a seasonal system fails to complete a Department-approved start-up procedure prior to serving water to the public.

(c) Monitoring violations.

1. Failure to take every required routine or additional routine sample in a compliance period is a monitoring violation.

2. Failure to analyze for E. coli following a total coliform-positive routine sample is a monitoring violation.

(d) Reporting violations.

1. Failure to submit a monitoring report or completed assessment form after a system properly conducts monitoring or assessment in a timely manner is a reporting violation.

2. Failure to notify the Department following an E. coli-positive sample as required by part (8)(b)1 of this rule in a timely manner is a reporting violation.

3. Failure to submit certification of completion of Department-approved start-up procedure by a seasonal system is a reporting violation.

(11) Reporting and recordkeeping.

(a) Reporting.

1. E. coli.

(i) A system must notify the Department by the end of the day when the system learns of an E. coli MCL violation, unless the system learns of the violation after the Department office is closed and the Department does not have either an after-hours phone line or an alternative notification procedure, in which case the system must notify the Department before the end of the next business day, and notify the public in accordance with Rule 0400-45-01-.19 (Notification of Customers).

(ii) A system must notify the Department by the end of the day when the system is notified of an E. coli-positive routine sample, unless the system is notified of the result after the Department office is closed and the Department does not have either an after-hours phone line or an alternative notification procedure, in which case the system must notify the Department before the end of the next business day.

2. A system that has violated the treatment technique for coliforms in paragraph (9) of this rule must report the violation to the State no later than the end of the next business day after it learns of the violation, and notify the public in accordance with Rule 0400-45-01-.19 (Notification of Customers).

3. A system required to conduct an assessment under the provisions of paragraph (9) of this rule must submit the assessment report within 30 days. The system must notify the Department in accordance with subparagraph (9)(c) of this rule when each scheduled corrective action is completed for corrections not completed by the time of submission of the assessment form.

4. A system that has failed to comply with a coliform monitoring requirement must report the monitoring violation to the Department within 10 days after the system discovers the violation, and notify the public in accordance with Rule 0400-45-01-.19 (Notification of Customers).

5. A seasonal system must certify, prior to serving water to the public that it has complied with the Department-approved start-up procedure.

(b) Recordkeeping.

1. The system must maintain any assessment form, regardless of who conducts the assessment, and documentation of corrective actions completed as a result of those assessments, or other available summary documentation of the sanitary defects and corrective actions taken under paragraph (8) of this rule for Department review. This record must be maintained by the system for a period not less than five years after completion of the assessment or corrective action.

2. The system must maintain a record of any repeat sample taken that meets State criteria for an extension of the 24-hour period for collecting repeat samples as provided for under part (9)(a)1 of this rule.

Authority: T.C.A. §§ 68-221-701 et seq. and 4-5-201 et seq.

I certify that the information included in this filing is an accurate and complete representation of the intent and scope of rulemaking proposed by the agency.

Date: October 22, 2014

Signature: _____

Name of Officer: Tisha Calabrese-Benton

Title of Officer: Director of the Division of Water Resources

Subscribed and sworn to before me on: _____

Notary Public Signature: _____

My commission expires on: _____

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Filed with the Department of State on: _____

_____
Tre Hargett
Secretary of State